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THE

MANCHESTER MEDICAL SOCIETY

LONDON

MEDICAL GAZETTE,

OR

Journal of Practical Medicine.

NEW SERIES.

VOL. IX.

LONDON:

PRINTED FOR

LONGMAN, BROWN, GREEN, AND LONGMANS,

PATERNOSTER ROW.

1849.

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MEDICAL SOCIETY.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LIX.

DISEASES AND INJURIES OF THE VASCULAR SYSTEM.—(Continued.)

Varicose aneurism—*how formed—difficult of diagnosis—case. Tying radial artery—steps of the operation—tying the ulnar artery—precautions necessary in these operations. Aneurism of the abdominal aorta. Sir Astley Cooper's operation of tying the abdominal aorta—case—description of the operation—post-mortem examination. Tying the common iliac artery—steps of the operation—difficulties that arise. Tying the internal iliac—the operation—tying the external iliac. Sir Astley Cooper's operation—difficulties attendant upon it—my own modification of the operation—advantages—cases.*

Varicose aneurism is a term employed when an aneurism, either true or false, opens into a vein more or less distant from the artery, the communication being formed by ulceration and not by puncture. The effect produced is, however, very similar to that in traumatic aneurismal varix: a similar pulsating tumor is formed, thrilling at each systole of the heart, and the phenomena are so identical in both, that it is only by the history of the case that the cause of the communication between the vessels can be ascertained. The following case very well illustrates the nature of the disease:—

T. T., aged 24, was admitted into the Shrewsbury Infirmary, in April 1839, with a pulsating tumor over the internal malleolus of the left leg, extending about three inches upwards, and placed midway between the anterior spine of the tibia and the tendo-achillis. A thrilling sensation could be felt through the whole course of the saphena major vein, as far as the upper part of the thigh; pressure upon the posterior tibial artery did not stop the pulsation, but if made upon the popliteal or upon the femoral artery, it was readily commanded. The patient stated that the disease commenced about five months before his admission into the Infirmary, and that he was at once disabled from following his usual occupation. From the strumous diathesis of the patient, it seemed probable that a slow ulcerative process had established the communication between the artery and the vein. Upon a consultation being held on this case, the surgeons of the infirmary, with the exception of the gentleman under whose care the patient was placed, were of opinion that a ligature should be applied around the femoral artery: this system of treatment was not, however, followed, but the limb was amputated.

No subsequent history of this case has been published.

The radial or ulnar artery may either of them require ligature for the cure of traumatic aneurism, or to check the hæmorrhage in case of their being wounded in the fore-arm or in their palmar branches. It is in wounds of the palm of the hand that these operations are most frequently required, and in consequence of the very free anastomoses between these two vessels in the depth of the hand, perhaps there is no case of bleeding more perplexing to the surgeon, or difficult to control, than wounds of the palmar arteries. When a punctured wound, for instance, has occurred in the deep palmar arch, which is generally caused by a fall on the palm of the hand, there is not only an immediate extravasation of blood, but violent sub-fascial inflammation quickly supervenes, and this, added to the intricate deep-seated structure of the parts, renders it impossible to cut down upon the wounded vessel for the purpose of placing a ligature on either side of the opening. Some years ago, my late colleague, Mr. Callaway, was called to a case of this kind, and finding that pressure on the radial artery stopped the hæmorrhage, he tied that artery about an inch above the wrist, but the bleeding in a few hours recurred: he then tied the ulnar artery, but on the third day hæmorrhage from the original wound took place; the interosseal artery was next secured, when the hæmorrhage was permanently stopped; but this was followed by sloughing of the parts, so that amputation of the hand became necessary. The treatment which I should follow in wounds of the palmar arteries, if in the superficial palmar arch, would be to enlarge the wound, and to secure the bleeding vessel; but if in the deep arch, I consider such a mode of proceeding impossible, and should try the effect of compression in the manner already described—viz. commencing at the fingers individually, and gently compressing the radial and ulnar arteries; and should this not succeed, I should tie the brachial artery, with the view of directing the current of the blood from its usual course, and leaving the circulation of the fore-arm and hand to collateral branches: this appears to me to be a much more likely means of stopping the bleeding than by tying either the radial or ulnar arteries near the

point of injury. Attention must, however, at the same time be paid to the position of the limb, the application of cold, and the diet of the patient. I was lately called to a case of sloughing of the hand, in which there was profuse hæmorrhage from the large artery of the thumb, where deeply seated between the adductor pollicis and the adductor indicis. Although in this case the bleeding was profuse, I could not discover the precise source whence it emanated, but I passed a crooked needle, armed with a ligature, deeply down by the first phalanx of the thumb, along the under surface of the adductor muscle, and the tightening of this ligature completely checked the hæmorrhage, which did not afterwards recur. The radial artery may be tied in any part of its course from the bend of the elbow to the point where it becomes palmar, but with much more difficulty in the upper third of the fore-arm than in any other part.

Operation of tying the radial artery.—If it be necessary to secure the artery in the upper third of its course, an incision is to be made commencing an inch below the bend of the elbow, a little to the radial side of the middle of the fore-arm, and continued obliquely downwards, and slightly outwards, for two inches and a half: this incision should merely divide the skin, avoiding as much as possible at the same time the superficial veins: the fascia is next to be divided to the same extent, which exposes the inner or ulnar edge of the supinator radii longus muscle; this is now to be drawn outwards, when the deep fascia of the arm will be exposed, and is next to be divided; when the radial artery will be brought into view with the radial nerve on its outer side: the ligature may now be applied in the usual manner. If it be considered advisable to tie the artery in the middle of the fore-arm, it is easily exposed by an operation precisely similar in all its stages to that first described, excepting that the incision is to be commenced where the last is described to have terminated.

From the superficial position of the radial artery at the inferior third of the fore-arm, it is frequently exposed to injury, rendering the application of a ligature necessary to stop the bleeding. To expose the vessel in this part, an incision, two inches and a half in length, is to be made on the radial side of the tendon of the flexor carpi radialis muscle: this incision is to expose the fascia, upon the division of which the artery may be seen with its nerve on its radial side, so that the artery is placed between the tendon and the nerve.

Operation of tying the ulnar artery.—The ulnar artery, in taking its course from the elbow to the hand, differs from the radial in being much more deeply seated in the upper third of the arm, and superficially in the hand, while the radial is comparatively superficial above, and deeply placed at its termination. Therefore, to tie the ulnar at the commencement of its course is a much more difficult operation than to secure the radial in the same situation. It may, however, be effected in the following manner:—The arm being placed resting on a table in the supinated position, an incision is to be made two inches below the internal condyle of the humerus, and continued downwards in the course of the centre of the ulna, to the extent of three inches: the fascia being exposed, it is to be divided to the same extent, and an intermuscular space between the flexor sublimis and flexor profundus will be exposed. The elbow must now be flexed, which will relax these muscles to permit of their separation to a sufficient degree to expose the artery, around which a ligature may be applied. The necessity for this operation must be of very rare occurrence; for, in consequence of the depth of the vessel, it is but little subject to lesion; and if a wound should be inflicted in it below this, it is better to tie the vessel at the point of injury than to attempt the difficult operation now described.

In the inferior third of the fore-arm the ulnar artery is readily exposed by making an incision about two inches and a half long on the radial side of the flexor carpi ulnaris; the fascia being divided, this muscle is exposed, and is now to be drawn inwards; the deep fascia is next to be laid open, when the artery will be exposed lying on the radial side of the ulnar nerve; from this, as well as its veins, it must next be separated, when the ligature can easily be passed around it.

In the description I have given of tying the radial and ulnar arteries, I have perhaps hardly sufficiently explained how much the successful performance of these operations depends upon clearly exposing the superficial and deep fasciæ of the fore-arm: for instance, immediately under the skin the superficial fascia is found: upon cutting through this, by the separation of the muscles or tendons, without the aid of a knife, the deep fascia is brought into view, and it is not until this is divided that the artery can possibly be exposed; and if this deep fascia were unintentionally cut through at the first incision, the distinctive steps of the operation would be lost, and the operator become confused by the absence of any guide, and could not be certain whether the deep-seated or superficial muscles were presented to his view.

Having completed the surgery relating to the arteries distributed from the commencement of the aorta, I shall now proceed to

the consideration of those vessels which supply the lower extremities, and are derived from the termination of that great systemic trunk.

Circumstances might occur which would warrant the repetition of Sir Astley Cooper's bold but still most scientific attempt to save the life of a person from a fatal bleeding, by the application of a ligature to the aorta itself; and in a case where, from the bursting of an aneurism, no other means could be had recourse to, I should not hesitate to follow his example; but in the case of a wound of the iliac artery, which, having been temporarily closed by a coagulum, afterwards bled afresh, I do not think the application of a ligature to the aorta so likely to prove effectual, as the collateral branches have not in the same manner been prepared to convey the blood by this new course.

Sir Astley Cooper's operation of tying the abdominal aorta.—Charles Hudson, a porter, aged 38, was admitted into Guy's Hospital, April 1817, with an aneurism of the left external iliac artery. On the third day after his admission, the swelling suddenly increased to double its former size, and distinct fluctuation could be felt above Poupart's ligament. The tumor now filled the space between the thigh and the reflexion of the peritoneum, so that any attempt to expose the iliac artery would probably have led at once to a fatal hæmorrhage. Sir Astley Cooper ordered the patient to be bled, to be kept perfectly quiet, and pressure to be applied to the tumor. A slough soon formed upon the surface of the skin over the tumor, but the patient remained for sixteen days without bleeding. On the morning of the seventeenth day, however, a profuse hæmorrhage occurred, which so exhausted him that he passed his fæces involuntarily. Sir Astley Cooper was immediately sent for; and as he saw that a return of the bleeding would destroy the patient, he determined upon applying a ligature around the aorta. The operation was performed as follows:—The shoulders of the patient were raised by pillows, for the purpose of relaxing the abdominal muscles, and an incision was made three inches long, half of which was above and half below the umbilicus, but curved so as to avoid the navel: the linea alba was thus exposed, and was next divided. A small aperture was then made into the peritoneum, and enlarged by a probe-pointed bistoury to nearly the size of the external wound. At this stage of the operation a small convolution of intestine projected, but it was easily returned. Sir Astley then passed his fore-finger between the intestines to the spine, when he readily felt the aorta beating with great force. By means of his finger-nail he scratched through the peritoneum at the left side of the vessel, and, gradually insinuating his finger between it and the spine, penetrated the peritoneum on the opposite side: through the opening thus made he passed the aneurismal needle armed with a single silk, which Mr. Key, who was assisting him, drew from the eye of the needle to the external wound. There was some difficulty in tightening the ligature without including a portion of intestine; but this was ultimately effected; and for the first time the aorta of a living man was compressed within a ligature. Immediately after the operation the patient passed his fæces involuntarily. The edges of the wound were brought together, and maintained in apposition by quill suture and adhesive plaster. The patient was put to bed; his pulse being upwards of a hundred and forty. Upon touching the thigh the man thought that it was his foot that was pressed—showing that the sensibility of the limb was imperfect. The patient remained comfortable until the following evening, when he vomited, and his fæces came from him involuntarily. He passed a restless night, and vomited at intervals: his pulse was 104, weak and small; his countenance was anxious; he complained of pain in his head, and his urine kept dribbling from him. He gradually became weaker and weaker, and died forty hours after the operation.

Upon post-mortem examination there was no sign of peritoneal inflammation, but adhesive matter had glued together the edges of the wound. The ligature had been passed aronnd the aorta about three-quarters of an inch above its bifurcation, and more than an inch below where it is crossed by the duodenum: no portion of intestine or omentum had been included in the ligature. On laying open the aorta, a clot of more than an inch in length was found to have sealed the artery above the ligature, and both common iliacs were also sealed to the extent of an inch by the continuation of the clot which had formed in the aorta below the point of compression,—a condition which proved that the aorta itself is as competent as smaller vessels to become obliterated by the influence of a ligature.

The aneurismal sac was found to be of an enormous size, and reached from the common iliac to Poupart's ligament, encroaching on the outer thigh.

This case, notwithstanding its unfortunate result, seems to my mind quite to establish the propriety of a repetition of the operation under favourable circumstances. I attribute the death of Sir Astley Cooper's patient to the quantity of blood lost on the first giving way of the slough: for it is described that he then passed his fæces involuntarily, which

is the strongest possible indication of prostrated vital power.

Sir Astley Cooper says, in a note in his second volume of Surgical Lectures, p. 72, (edited by Mr. Tyrrel), "in an operation which I lately performed of tying the external iliac artery above Poupart's ligament, I think I could with little difficulty have reached the aorta by turning up the peritoneum; and should I again think it advisable to place a ligature on the aorta, I should prefer this method to the one I before adopted." I doubt, however, whether Sir Astley Cooper would have succeeded in his case, unless he had performed the operation on the right side of the abdomen, which would have complicated the steps, as he would have had to cross the inferior vena cava to reach the aorta; for, had he made his section on the left side, not only would the aneurismal sac have limited his space, but there would have been great danger of hæmorrhage as soon as he had divided the parietes of the abdomen. And, moreover, it has now been sufficiently proved that there is not that danger in opening the peritoneal cavity, in health, which was at one time so much dreaded by surgeons: I should therefore, in an attenuated patient, proceed in the same method followed by Sir Astley Cooper, in the case I have already quoted.

Operation of tying the common iliac artery.—The common iliac arteries do not send off any branches of importance in their course from the interspace between the fourth and fifth lumbar vertebræ to the sacro-iliac symphyses, where they divide in the internal and external iliac branches. They are, therefore, but little subject to disease, and I believe there are no instances on record in which a ligature has been passed around them, except for the cure of aneurism, in either the internal or external iliac arteries. I have never myself performed this operation, but once saw Mr. Guthrie tie the vessel. The operation is performed in the following manner:—The patient is placed on a table with the shoulders slightly raised and supported by pillows, and the thigh on the diseased side elevated for the purpose of relaxing the abdominal muscles. An incision is next made commencing an inch above the anterior and superior spinous process of the ileum, and being continued downwards to the internal abdominal ring, keeping the incision parallel to the curve of the ileum, and in the direction of Poupart's ligament. This first incision is only intended to divide the skin and superficial fascia: the edges of the wound are now to be separated, when the tendon of the abdominal oblique muscle will be seen, and must be divided, the opening being made of equal size with the external incision: as much of the oblique muscle itself as may be exposed is also to be divided. A director is next passed beneath the free edges of the internal oblique and transversalis muscles, where they cease to arise from Poupart's ligament; great care being taken in this step not to puncture the fascia transversalis by the director. The muscles are now to be divided, and by this means the fascia transversalis, or internal abdominal fascia will be completely exposed: this fascia is to be cautiously opened to the same extent as the first incision, and the fingers inserted into the abdomen. By passing the fingers into the external wound, the peritoneum can be readily separated from the iliac fossa. These steps being completed, the peritoneum must be separated from the fascia iliaca by insinuating the fingers between them; and if the hand be now directed towards the sacro-iliac symphysis, the division of the common iliac into the internal and external branches may be distinctly felt; and as the common trunk is in this region only loosely connected with the psoas muscle, the aneurismal needle, conducted by the fore-finger, may be readily passed behind it.

The most difficult step in this operation is raising the peritoneal bag and its contents, to obtain sufficient room to tie the artery, without endangering the peritoneum. This is best effected by an assistant standing on the opposite side of the operator, and withdrawing the viscera carefully, by placing his hand beneath the bag of the peritoneum. In passing the ligature in this operation, great care must be taken that the ureter be not included in the ligature; and as that canal passes in front of the iliac vessels, it should be raised, with the peritoneum, by the assistant. Such are the steps of the operation by which, in the opinion of Sir Astley Cooper, the aorta might be more easily reached than in that which he adopted in the case of tying that vessel already described.

Some surgeons have recommended another mode of proceeding in tying the common iliac artery—viz. first to make an incision through the skin of the abdomen parallel to the epigastric artery. This incision is to commence about an inch above the centre of Poupart's ligament, and be continued upwards for four inches, terminating at the outer edge of the rectus muscle, so as to expose the tendon of the external abdominal oblique. This tendon is next divided: the three layers of abdominal muscles are now to be cautiously cut through, and an opening in the fascia transversalis torn by the finger nail, so that the cavity of the abdomen may be entered; the peritoneum is then to be detached from the iliac fossa, in the same same manner as I have described above.

I consider this last operation much more difficult than the former, because you would be certain to divide large branches from the

epigastric artery, the bleeding from which would much interfere with the further steps of the operation. 2ndly. In consequence of the extreme tenuity of the internal abdominal fascia towards the mesian line, compared with its development in the iliac region; and 3rdly, because in the proposed vertical incision the spermatic vessels would be much more likely to be wounded.

Tying the internal iliac artery.—Dr. Stevens, of the Island of Santa Cruz, was the first surgeon who placed a ligature around the internal iliac artery, which operation proved successful; and, perhaps, from the length of its course before it divides, and the numerous branches which it then sends off, which all freely anastomose with the artery on the opposite side, there is scarcely any artery in the body which affords a greater probability of a successful termination to the operation than this vessel; but still it must be admitted that it is one of the most difficult to reach, owing to the depth of its situation, its near approach to the mesian line, and its close proximity to its corresponding vein, external iliac artery, and ureter. Had I to tie this artery,—an operation I have never performed,—I should proceed precisely in the same manner as in the operation I have described for securing the common iliac. A facility may be afforded in directing the finger immediately to the artery after the incision has been made, by remembering that the origin of the internal iliac is in the centre of the line drawn from the anterior and superior spinous process of the ileum to the umbilicus. In very stout people I have found this operation very difficult, even in the dead subject: for in the force necessary to hold the mass of intestines back, there is great liability of wounding the peritoneum; and if a large opening be made through that membrane, the difficulties in the farther course of the operation would be almost insuperable.

Tying the external iliac artery.—In the operation of tying the external iliac artery, either the vertical or oblique lateral incision may be employed: the former was first recommended by Mr. Abernethy; the latter is generally known as "Sir Astley Cooper's operation." For the reasons already given I prefer the incision made in the course of the tendinous fibres of the external oblique muscle, to that made vertically through the parietes of the abdomen; and having performed this operation on nine occasions, I can confidently speak of the facilities in the lateral method.

In the first case in which I tied this artery, I commenced the incision about two inches on the inner side of the anterior and superior spinous process of the ileum, and continued it downwards and inwards, terminating it in the space between the internal ring and the spinous process of the pubes.

This incision followed, therefore, the course of the spermatic cord after it issued from the internal ring, and merely divided the skin and superficial fascia. The tendon of the external abdominal oblique muscle was next divided, and the inguinal canal consequently laid open. I now laid hold of the chord, and turning up the free edges of the internal oblique and transversalis muscles, exposed the spermatic chord at its point of exit from the cavity of the abdomen, the orifice being, however, concealed by the fascia spermatica interna. This fascia, which is, indeed, only an extension of the internal abdominal fascia, may now be cautiously torn through by the finger-nail, and the opening afterwards enlarged by the bistoury, either upon the finger or upon a director. If the finger be now directed deeply downwards and inwards towards the linea ileo pectinea, the artery may be readily felt, and the spermatic chord being drawn and held upwards and inwards by an assistant, the artery can be readily separated from its vein by means of the finger-nail, and the aneurismal needle with a ligature passed behind it, being directed from within to without. In three or four of my early cases I met with considerable difficulty in ascertaining when I reached the peritoneum through the internal abdominal fascia; for, in consequence of the prolongation of the former along the chord, these two delicate membranes lie in such close contiguity as to render their separation extremely difficult. In this mode of operating the situation of the spermatic chord also tends much to limit the space required in securing the artery: I have therefore latterly adopted a modification of the operation, and instead of extending the first incision beyond the internal ring in the course of the inguinal canal, I stopped at the ring, and then cut through the tendon of the external abdominal oblique muscle, so as to expose the attachment of the internal, oblique, and transversalis muscles, to Poupart's ligament. After dividing the attachment of these muscles, they are to be turned up, when the internal abdominal fascia, which is in this situation strongly developed, will be brought into view, and in consequence of its great tenacity offers none of those difficulties which are experienced when the opening through it is made on the inner side of the internal abdominal ring. The fascia when divided is here so perfectly free from adhesion to the peritoneum, that the operator possesses great facility in elevating the peritoneum and enclosed viscera from the iliac fossa, and in reaching the external iliac artery. In the performance of this

operation, I have frequently been able completely to expose the artery to view before applying the ligature; while in the method I first adopted, I never dared sufficiently to separate the peritoneum from its attachment to the fascia, to enable me to see the artery whilst I passed the ligature around it. I have already described a case in which I secured this artery, when speaking of the mode by which an artery is obliterated by a ligature; but in that case I did not succeed, as no coagulum formed, and upon separation of the ligature fatal hæmorrhage ensued.

In 1827, Feb. 20th, I performed the operation of securing the femoral artery for popliteal aneurism, in Richard Robins, an agricultural labourer, æt. 36. There was nothing particular in the operation, and he appeared to be going on favourably until the sixth day, when the wound put on an erysipelatous inflammation: this was treated in the usual manner, and easily subdued. On the eleventh day after the operation, a severe hæmorrhage occurred, but was restrained by pressure: it recurred, however, in the course of the day, when I was sent for, and immediately secured the external iliac artery. All hæmorrhage ceased, and the patient appeared to be going on remarkably well, until the 8th of March, when he was attacked with vomiting and symptoms of great depression: the vomiting continued at intervals throughout the night: the countenance was anxious; pulse quick and feeble, and the sickness continued in the most distressing manner, unrelieved by any remedies that were administered; and on the seventh day after the application of the ligature to the external iliac artery, the patient died. The friends would not allow the body to be examined. But the death of this patient appeared to result rather from the great depression caused by the original loss of blood, than from any cause attributable to the second operation.

In January, 1823, a poor man called to obtain the advice of Sir Astley Cooper; who at that time saw a great number of patients gratuitously. He was the subject of an aneurism of the femoral artery, opposite to the point where that vessel perforates the adductor magnus. Sir Astley placed the patient under my care, and as at this time I had not been appointed surgeon to Guy's Hospital, I placed the man in private lodgings. On examining the case, I found the artery diseased just below Poupart's ligament, and therefore could not, as I intended, apply the ligature upon the superficial femoral artery, and determined upon tying the external iliac,—in which operation I was assisted by my brother-in-law, Mr. Tyrrel. I performed the operation by laying open the inguinal canal, entering the abdomen by tearing through the prolongation of the internal abdominal fascia on the chord; when I found considerable difficulty in raising the peritoneum, but succeeded, however, in placing a ligature round the artery. On the twenty-first day the ligature came away, and the wound healed favourably. Sloughing of the foot ultimately supervened, but after removing the two outer metatarsal bones the patient perfectly recovered.

Hans Jacobs, æt. 44, a Danish sailor, was admitted into Guy's Hospital on the 16th of July, 1831, with a large aneurism a little below Poupart's ligament, over which the swelling partly overlapped. The lateral dimensions of the tumor exceeded the vertical: it was more solid at its outer part than in the centre, and the pulsation was extremely strong. On the 19th I placed a ligature around the external iliac artery, and in this case I made my first incision so as to cross the internal ring. I reached the artery through the ring, and experienced the same difficulty as I have already stated in raising the peritoneum. The temperature of the limb was, on the day after the operation, a degree and a half higher than that of the opposite leg. On the 21st day the ligature came away, and shortly after the patient was discharged quite well, the wound healing by granulation.

George Sullivan, æt. 34, by profession a flute-player, and of cachectic appearance, from the irregularity in his habits of living almost inseparable from his occupation as a tavern musician, described that about a month before his admission into the hospital (on August 29, 1836), he accidentally discovered a pulsating tumor about the centre of the middle third of the right thigh, just over the femoral artery. He could not attribute it to any accident or violent exertion. The tumor was about the size of a large hen's egg, and was easily emptied either by pressure upon it or upon the artery above, but instantaneously refilled upon the pressure being removed. A few days after his admission I tied the external iliac artery, pursuing the same course in the operation as I have already described. On the day following the operation the limb was a degree higher in temperature than on the healthy side, and the patient was perfectly free from pain. The next day he had rather a sharp attack of fever, attended by vomiting, and considerable pain in the wound. The bowels not having been opened, he was ordered saline draughts. This treatment was sufficient to relieve the febrile symptoms, and no further untoward circumstances occurred. On the eighteenth day after the operation the ligature came away, and from that moment the patient rapidly recovered, and was discharged on Oct. 11th, quite well.

In 1838 I witnessed the operation of

tying the external iliac artery by my late colleague, Mr. Morgan, in which the operation was rendered unusually difficult, from the presence of hernia on both sides. The man was the subject of an aneurismal tumor of the right femoral artery at its subdivision into the superficial and deep branches. On the 10th of October, Mr. Morgan tied the right external iliac, making an incision extending from an inch below the anterior and superior spinous process of the ileum to within an inch of the spine of the pubes. On dividing the tendon of the external abdominal oblique muscle, the right inguinal hernia immediately protruded, rendering the operation extremely difficult: it was a difficulty, however, which the operator, by his great coolness and precision, immediately overcame, and the patient recovered from the effect of the operation without an untoward symptom.

John Bryant, æt. 41, was admitted into the hospital, Feb. 14, 1844, with a double aneurism of the right femoral artery, the sacs being about two inches distant from each other, and about four inches below Poupart's ligament. The patient was short, stout, and carried somewhat an appearance of recklessness in his countenance. On the 20th of February I tied the external iliac artery as hitherto described. From the stoutness of the patient I met with more than usual difficulty in exposing the vessel, which presented a diseased appearance, it being larger and its coats thinner than natural,—creating a fear in my mind, when I tightened the ligature, that they might possibly give way, from the constriction: nothing untoward, however, occurred. The next day the patient complained of general abdominal tenderness, attended by nausea. His countenance was anxious, and pulse small and hard. Calomel and opium was ordered, and a light poultice to be laid over the abdomen. On the 22d the patient had in no respect improved. The abdomen was distended, and the bowels constipated: indeed, the symptoms were so urgent and peculiar that a suspicion crossed my mind that I might possibly have included a portion of intestine within the ligature. My fears proved, however, unfounded; for the administration of half an ounce of castor oil and fifteen drops of laudanum produced a copious healthy motion. On the 18th of March, twenty-six days after the operation, the ligature came away without the slightest bleeding, and the patient remained for a week in such a state as to lead to the hope of rapid convalescence. On the 29th of March, however, signs of gangrene appeared in the little toe, and, notwithstanding medical treatment, continued to progress until the whole foot was in a state of sphacelus. On the 4th of April the gangrene had extended above the ankle, the general health of the patient being, however, but little affected. By the 12th, more than half the leg was in a state of gangrene, emitting a most offensive effluvia, and his constitution then began to suffer from the local affection. Brandy, bark, and ammonia, and animal food, were ordered, and on the 18th a distinct line of demarcation had formed about two inches below the tubercle of the tibia. The health of the patient was now much improved, and on the 21st I considered him in a fit condition to bear the operation of amputating the dead from the living parts. He readily consented to it, and after the operation the stump readily healed by granulation. He left the hospital quite well on the 18th of July.

Henry Stevens, æt. 51, a healthy-looking man, of spare habit, was admitted into the hospital, 4th August, 1845, with aneurism of the right femoral artery: he attributed the commencement of the disease to stumbling over a stone when carrying a heavy load a few months before. When admitted to the hospital, the tumor was raised about two inches above the level of the thigh, was five inches in diameter, and occupied entirely the triangular space formed by the sartorious and obturator muscles and Poupart's ligament: the latter it partly overlapped. The pulsation was very strong, and the whizzing sound loud upon auscultation. The arterial system generally, as well as the lungs, was pronounced healthy. Owing to the patient being somewhat out of health when admitted into the hospital, he was not operated on until the 14th inst. In this case I changed my plan in the operation, making the incision to terminate entirely on the outer side of the internal abdominal ring, and instead of turning up the free edges of the internal oblique and transversalis muscles, I cut through their attachments, to Poupart's ligament, and thus only exposed the iliac portion of the internal abdominal fascia: on the division of this I easily separated the peritoneum from the iliac fossa, and brought the artery distinctly into view: scarcely any blood was lost in the operation. The patient was removed to bed, and the limb, slightly flexed, was wholly enveloped in flannel: eight hours after the operation the temperature of the limb had risen to 99°, while that of the sound limb was 97°; on the following day, the temperature on the side of the disease had increased to 102°, that of the other side being 101°.

From this time, until the 1st of September, the patient did not present any alarming symptoms, although his general constitutional powers remained unimproved; his tongue became brown, his pulse feeble, and his appetite bad; but still his spirits were good, and he seemed confident of recovery.

On the first of September, at 10 P.M., the dresser was sent for in consequence of a hæmorrhage from the wound; before his arrival in the ward, the bleeding had, however, ceased, not more than about 4 oz. of arterial blood having been lost. The next day the spirits of the patient were much depressed; pulse 96, and feeble, and a sanious discharge continued the whole day from the wound; the ligature now seemed to protrude farther from the wound, as if it were separated from the artery; but owing to the tendency to hæmorrhage, the dresser dared not ascertain the fact; on the 3rd of September, bleeding again occurred; about 4 oz. of blood were lost, but the bleeding was stopped by pressure; in two hours, however, another gush of blood occurred, when Mr. Hilton was called into the ward, and applied a tourniquet over the artery, and thus completely commanded the bleeding. The hæmorrhage not returning on the 6th, the tourniquet was removed; no blood followed; but a fœtid grumous discharge, apparently from the sac, oozed from the wound. A sloughing over the ileum, which seemed to have been produced by the pressure of the tourniquet, now commenced: the patient gradually became weaker; his appetite continued bad; his pulse was 130°. The grumous discharge increased, the sac becoming proportionably softer, and on the 15th matter appeared to be making its way down the thigh; an opening was made, and a considerable quantity of grumous matter, similar to that discharged from the wound, was evacuated; his pulse could now scarcely be counted, from its feeblencss and rapidity; his face was bedewed with perspiration. At 11 P.M. on the same day, arterial hæmorrhage came on, and at 12 o'clock he died.

Examination 12 *hours after death.*—The parts about the wound werc in a state of gangrene. The external iliac artery was divided at the point where the ligature had been applied, and the two ends were in a state of gangrene. Upon making a section of the upper portion of the artery, a firm coagulum, about half an inch in length, was found, but at some distance from the truncated extremity, the interspace being filled with the same kind of grumous matter which had been discharged from the wound during life. The bleeding had evidently taken place from the lower extremity of the artery, in which no coagulum was found. The femoral artery passed through the centre of the diffused aneurism, and just below where the profunda was given off a second aneurism was found.

William West, æt. 36, was admitted into Guy's, 20th January, 1847. He states that about three months ago his attention was first attracted to a pulsating tumor, about the size of a pullet's egg, situated in the left groin, just below Poupart's ligament; he could not trace it to any cause, never having received either a blow or sprain; the tumor remained unchanged in form or size until two days previous to his admission into the hospital, when, while walking briskly along the pavement, he slipped off the curb-stone, falling heavily in the road; at the same time he most distinctly felt the tumor give way: the thigh immediately became much enlarged, and he stated that he distinctly felt "something hot running down the inside of his thigh." He was carried home, and remained in bed 36 hours, suffering considerable pain from the great distension of the integuments of the thigh, attended by a sensation of numbness and cold in the leg. On the afternoon of the second day after the accident, he was brought to the hospital; in about four hours after his admission, I saw him. On examination, I found the left thigh nearly twice the size of the right, being particularly prominent about the upper third of its anterior surface; but the whole thigh was tense, the extravasation of blood extending to the knee, and pulsation being distinctly evident throughout the whole course of the thigh. I felt that delay was inadmissible, and immediately proposed to the patient the application of a ligature around the external iliac artery: he consented, and was removed at once to the operating theatre. The steps followed in this operation were the same as those in that last described, the artery being very easily exposed. The ligature came away on the 23rd day, and the patient recovered without any bad symptom the only point worthy of notice being the circumstance that the temperature of the limb operated on always exceeded (during the progress of the cure) that on the healthy side by three or four degrees.

I have performed this operation successfully in one other instance, but cannot find the details of the case. I therefore only mention it here, as it appears to me desirable that in an operation so important correct statistical accounts should be preserved, to show the proportion of cures out of the whole number of operations performed. I believe that although from its situation the placing a ligature around the iliac artery is a formidable operation, a favourable result can be more confidently anticipated than in the case of any other artery of great magnitude: this arises from two principal circumstances—firstly, through the greater part of its length, viz. from the sacro-iliac symphysis to Poupart's ligamcnt, no branch of any importance is given off so as to interfere with the formation of the clot; secondly, the free anastomosis betwcen the branches of the internal and external iliac on the thigh is sufficient to carry on the circulation to the lower extremity.

Original Communications.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE ALIMENTARY CANAL.

By William Brinton, M.D. Londin.
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[Continued from last volume, p. 1031.]

Part II.

b. ON THE PHYSIOLOGY OF INTESTINAL OBSTRUCTIONS.

The argument of the following part of this paper, and its connection with that which preceded it, may be thus stated:—

The pylorus being shut, the peristaltic action of the muscles of the stomach resulted in a reflex current of the liquid ingesta. But the form of the intestinal tube, the structure and disposition of its muscular coats, and the probable action which they effect, so closely resemble the corresponding circumstances of the preceding organ, as to offer in these respects physical conditions which are essentially the same. Therefore, if disease or experiment add the only remaining requirements—viz. those of occlusion and distension,—and thus complete the analogy of the intestine and stomach, the physical results obtained in the two cases will probably be referrible to the same principle; and the closeness with which they will approximate will be determined by the variations in these the common conditions,—variations the amount of which will be represented either by their number or degree, or by both these considerations jointly.

One of the most remarkable and constant symptoms of occlusion of the intestine is the occurrence of fæcal vomiting.

The explanation given by Galen of the mechanism which effects this phenomenon, has remained up to the present time; and scarcely challenged during all this period, but repeatedly adopted and confirmed by succeeding authorities, it still rules so universally, that I am alike spared the necessity or possibility of quoting its advocates. What with its philosophic simplicity, the eminence of its supporters, and the completeness with which it accounts for the fact, perhaps few doctrines have a more impregnable appearance. And partly on these grounds the author trusts that, where the argument requires it, he may be allowed to anticipate, by a short statement, results which will be detailed more fully afterwards.

The theory may be thus briefly laid down. At a certain stage of an intestinal obstruction, the natural peristaltic action of the bowel above the occluded point is reversed, and, instead of proceeding towards the lower outlet, as heretofore, it passes in the contrary direction, impelling the contents in a similarly retrograde course, so as to return them to the stomach, whence they are vomited.

As far as can be collected, it would seem that by some the vomiting itself is supposed to constitute but a part of one continuous action; while others, who might be considered to separate the two stages (viz. the return of fæcal matters into the stomach, and their expulsion thence) by considering vomiting to imply an antiperistalsis of the stomach, reduce them to much the same thing; the action in each being identical, its starting points only different.

On examining into the experimental foundations of this doctrine, I have been surprised to find the small number of facts which represent its basis, and the inefficiency of the few made use of.

Among the very numerous writings which affirm and illustrate the antiperistalsis, in those of Wepfer* and Schwartz† only have I been able to discover the results of experiment; and even in these the necessary parallelism of both the preliminary conditions and the produced effects is completely wanting. None of these experiments included obstruction of the cavity of the tube, although it is notorious that with this condition alone the symptom sought to be explained is connected, and in none was fæcal vomiting present. So also in none was the antiperistaltic movement substantiated; for that described is in every instance an irregular vacillating motion. Wep-

* Op. cit.
† Haller's Disputationes Anatomicæ.

fer, indeed, expressly defines it as a "nunc sursum, nunc deorsum" movement: and Brünner, whom he quotes, mentions a similar action, in the same words, as obtaining in the rectum of a living animal while the fæces were being propelled in the normal direction. And, on the whole, I have found it impossible to come to any other conclusion than this — that an anti-peristaltic movement has never yet been seen in any part of the alimentary canal. But although the facts observed by these authors seem not to warrant the inferences they have drawn from them, yet the existence of such irregular actions is undeniable; and in this view they demand some attention.*

When the abdomen of a healthy animal is laid open immediately after death, the intestines are seen lying perfectly still; but in a very short time those parts of them which are exposed to the air experience vigorous contractile movements. In many instances these are irregular and indefinable; but in other cases they take on appearances of a forward or backward course, or sometimes of each of these directions alternately.

In those instances where a direction of transverse contraction is best marked, the circular depression is preceded by a dilatation which stretches the intestine to the full length of its mesentery, so that it rises, as it were, at the extremity of this its tether; and immediately to this succeeds the circular indentation, travelling slowly onwards.

A forward course of these constrictions is certainly by far more frequent than the reverse, but both occasionally obtain, while it is perhaps more usual to find them without any direction capable of identification; and in this respect they are much more truly named "vermicular" than "peristaltic" movements.

After a few minutes, the contraction of the intestines (which ordinarily contain but little fluid) gives them a nodulated or almost moniliform shape. Gradually the movement wholly ceases, but the contracted condition endures for a considerable time.

On raising these parts of the canal, and disclosing other portions hitherto concealed, these also pass from a condition of comparative rest into one of like activity to that previously described; and, after experiencing movements of an identical character during about an equal time, they finally attain the same quiescent and permanently contracted state. The behaviour of the stomach under similar circumstances was noticed in a former part of this paper. A comparison of the small intestines and stomach under these circumstances led Glisson to imagine that the movements of the latter organ in health were slow, insensible, and in no degree approaching to those of the intestines. But, in spite of these appearances, the reverse would be a far more correct statement.

Now the tranquillity of these parts previously to the admission of air,—the irregular and diffuse nature of the contractions themselves, which correspond to the widely spread application of the stimulus,—the final result on the intestine,—and the effect of uncovering fresh portions, — together offer the strongest probability that the movements witnessed are chiefly due to the irritation consequent on the admission of air. Perhaps we might almost term it a sort of precipitate rigor mortis, resulting from an amount of exposure to the cold atmosphere which hours only can produce in the case of the muscular tissue of other parts of the body.

But whether this comparison be true or not, it is sufficiently evident that there is nothing here which can be called an inverted peristalsis, and little even of analogical aid to assist us in conjecturing the definite movements which undoubtedly occur in these parts during life.

In the case of the artificially occluded bowel, and where the vomiting of fæcal matter has been a prominent

* Antiquarian research might perhaps somewhat modify this statement, but I suspect very slightly only, since numerous observations seeming to bear on the subject, and quoted by these older authors, on close inspection are found quite wanting in relation to that which they are brought forward to confirm. One author must be especially mentioned here, as having combated the antiperistaltic theory: this was Haguenot, whose thesis is given in Vol. I. of Haller's "Disputationes Anatomicæ," and in which the author of this paper found some of the objections raised by him had been anticipated. Bnt Haguenot adopted the singular view of attributing all the movements in the intestines almost entirely to the diaphragm and abdominal muscles; and considered that, on the occlusion of the tube, a tendency of liquid towards the least resistance expressed the cause and mode of its return to the stomach by the same forces.

symptom during life, an examination immediately after death gives very similar results; but some differences do obtain, and these appear to be chiefly connected with the degree in which distension of the intestine has taken place.

If the bowel be enormously dilated by its contents, it will for the most part be found that in the parts so distended none of this vermicular action obtains. If fluid be present in less excessive quantity, the movements are both more evident and more distinctly and uniformly peristaltic than in the healthy intestine. This effect appears to depend on two causes: on the contents offering an object on which constriction can be made manifest; and also, I believe, on a direct increase in the energy of the movements themselves; but their apparent direction is subject to the same uncertainties as in the healthy intestine, though in a less degree.

Thus the observation of an inverted movement fails us even in the condition the symptoms of which it was supposed to explain; and, on the whole, there are still fewer appearances of a backward movement in the strangulated than in the healthy tube: while all the positive evidence of these observations is in favour of a similarity of contraction in the obstructed and unobstructed states, the few differences offered being directly or indirectly assignable to their physical condition.*

We next proceed to adduce some arguments against the consistency and probability of the antiperistaltic theory.

The antiperistalsis is supposed to occur from the over-irritation at the stricture inverting the natural action of the bowel. The following quotation,† though originally written of the stomach, represents this view with sufficient accuracy: — "All substances which, when their action is moderate, promote the peristaltic motions of the irritated parts, by a more violent operation cause those motions to become reversed."

It is a serious objection to any theory which would constitute irritation the first link in the chain of cause and effect, that, however we may interpret the term, we cannot name any morbid state or affection of the bowels in which irritation is not present; while an occlusion of their cavity in some part of its course is the only condition in which fæcal vomiting is present; that, in fact, the alleged cause is almost universal in the pathology of the organ, while the alleged effect is rare and exceptional. Nor can we show, or even plausibly speculate upon, any differences in the degree or kind of irritation in the different diseases of the bowel, which should cut off the occurrence of the result in so extensive a number, or rather so vast a majority.

On the other hand, since we find a physical fact—occlusion—to be the necessary condition of a peculiarly physical phenomenon,—fæcal vomiting,—there are considerable grounds for suspecting some immediate physical causation in this circumstance, the nature and frequency of which so closely coincide with those of the effect.

2. Of nearly equal value is the objection drawn from the condition of the replete intestine. Where, as frequently happens in these cases, the occurrence of the effect (fæcal vomiting) many hours or even days before death, and its continuance up to that event, ought to imply a similar duration of the antiperistalsis which is the cause, a post-mortem inspection offers appearances utterly irreconcileable with this. From the analogy of other contractile tubes, we might fairly expect that a sufficient quantity of contents would by this time have been propelled in the direction of motion, to render the calibre and distension of the intestine at least uniform throughout, if not greater at the upper part of the duodenum, towards which the movement had set. But the contrary is invariably the case: that which should have been the starting point of contraction evinces the least signs of its presence, and is by far the most distended part of the bowel; and from this point upwards, the intestine tapering away like a cone,

* The vivisection of healthy and obstructed animals, and the comparison of the intestinal movements in the two states, will probably suggest itself to many as an *experimentum crucis*. But the appearances observed in tying the intestine of several animals were sufficient to show that no hope of such a satisfactory result could be entertained, since in these cases I was not able to identify a definite peristalsis before deligation. It would thus appear that either the movements of the bowel are considerably affected by the operation and exposure, or that, during health and in their normal situation, their movements are of much less visible dimensions than the gastric contractions to which they are probably analogous.

† Müller's Physiology, translated by Dr. Baly.

soon regains its normal diameter, and generally dwindles to comparative or even absolute emptiness before arriving at the pylorus.

In favour of the simpler view, we may notice the great general resemblance of this state to that which is seen in all cases where tubes, conveying fluid contents, are strangulated in some part of their course. After such a condition has obtained for some time, the appearances are uniformly those of dilatation immediately behind the obstructed point. And, though we might attempt the distinction, that the contents are evidently returned in one case, and only accumulate in the others, yet it must be remembered that this is true so far as regards our *detection* of the fact, but is insufficient to establish its negative. It is, in strictness, only another mode of stating our ability to recognize, by certain qualities, that such and such matters have reached a point in the intestine nearer to the obstruction than that in which they are found; and our inability to predicate the like where no such differences obtain (or have been seen) at different parts of a tube; our inability, *e. g.* to say whether urine found in the pelvis of the kidney has ever occupied the occluded ureter; or bile found in the liver, its obliterated duct; or blood found in the heart, its strangulated vessel. But it is probable that within the limits of this general analogy, considerable deviations exist. These will be subsequently pointed out, and their explanation attempted.

3. In one particular kind of obstruction—viz. intus-susception—a peculiar condition is found after death. A superior portion of the intestine has passed into an inferior, and its occupation of the latter part, aided by distension, congestion, or inflammation, has resulted in occlusion, with its ordinary symptoms and fatal effects.

It has occurred to me, that by the reduplication itself, Nature appears to inform us, not only of the cause of intus-susception, but even of the very steps of its development. In looking at such a specimen, we seem to behold a case in which the agents of disease are, as it were, taken in the very act. The longitudinal fibres remaining quiescent, the intestine has been surprised by a transverse constriction, the rapid passage of which forwards has hurried the contracting portion into the flaccid and dilated part immediately anterior to itself.

With a circular wire, and the finger of a glove, we may tolerably imitate both the conditions, and the result.

The circumstances of these invaginations corroborate the evidence already afforded by their uniformity of direction and anatomical appearances. It has long been known, that whatever tends to irregular action of the intestines, favours the production of intus-susceptions, and that the general agitation which accompanies the mortal agony, often leaves them as its relics in the dead body; their recognition by the eye of the anatomist being the first and only sign of their existence.

Now, though a continuance of the transverse peristalsis would obviously be useless as a means of disengagement, nay, more, would only aggravate the evil, by tending still further to introduce the upper contained portion; and, though we can readily imagine that the very gradual accumulation of fluid from above, would but develop and dilate an abnormal pouch or valve, to the stricter obliteration of the cavity of the impacted portion which it surrounds; and, though in all probability it would require the most vigorous contractions of the previously slumbering longitudinal fibres, both above and below the intus-susception, in order that these unaided should restore the natural condition; yet it does seem evident, both from the nature of the theory, and the rude model I have suggested, that an antiperistalsis would so effectually, and of necessity, remove the condition, that the theory of such a reversal is well nigh incompatible with the fact of the invagination.

The effect that the longitudinal fibres would have in assisting reduction, is sufficiently obvious; but even supposing the antiperistalsis literally reduced to a transverse constriction, the result would be little affected: for the advance of such a constriction seems to imply a dragging behind it.

An inverted movement of this kind would at once diminish the diameter of the impacted portion, and, as it proceeded upwards, draw the so narrowed tube out of the part containing it. It would thus imitate, under the happiest circumstances, the conduct of a surgeon who reduces a paraphimosis; while with one hand he compresses the stran-

gulated glans, and reduces its size thereby, with the other he simultaneously pushes it through the strangulating ring of prepuce, or, what is virtually the same thing, draws this over that.

The operator knows that each of these actions is essential to the result; and that first mentioned—viz. compression,—would probably be even more necessary in the case of the intestine, where the texture of the muscle, and its independence of volition, offer much earlier limits to the energy of the tractile share of restriction than the powerful mechanical force which the operator can exert at will. And, so far as I can see, an antiperistaltic movement is almost the only way in which both these could obtain at the same time.

4. The nature of the movement affords some ground of objection. The supposed antiperistalsis is a continuous motion, the vomiting only an interrupted phenomenon; an inconsistency, if they are considered as one and the same action. And, therefore, a theory which showed an essential independency of the two acts—of this backward passage of fæces into the stomach, and their expulsion from it—would be so far preferable. But since many who receive the ordinary view evidently distinguish these as two stages, though not as two actions, little stress can be laid on this objection derived from their observed independent nature: and hence its consideration is deferred.

5. But although an extension of this action to the stomach might be considered as only indirectly, or not at all involved in the antiperistaltic view, it is incontestable that the supposed action ought to extend in both directions far beyond the irritated or occluded point: while, in striking opposition to this, it is found in numerous instances that the ordinary peristalsis of the tube has gone on in the part below the strangulation; satisfactory evidence both of the existence and power of this movement having been afforded by the expulsion of the usual solid contents of the bowel. Defæcation after the obstruction and vomiting have persisted many days, is by no means an uncommon occurrence. In animals where this condition has been artificially induced, I have almost always found an empty contracted state of intestine immediately below the stricture; and, finally, in one experiment, where the deligated intestine of a cat was evidently filled with solid fæces at the time of the operation, an examination after death showed that this part had been subsequently emptied.

And even were it imagined that by some inexplicable peculiarity, the reversed movement only engaged those parts of the canal which lay within its course, and superior to its starting point, yet it must be borne in mind that this emptying of the tube immediately below, requires that the peristalsis shall have commenced from the very seat of the stricture; and thus, from one and the same point, to which has been applied one and the same stimulus, two opposite movements have set forth; the one upwards towards the stomach—the other downwards towards the rectum.*

6. The varieties in the date of occurrence of the symptom form the last objection I shall urge.

We might, indeed, prelude it with a remark on the ordinary time of its appearance, which somewhat disfavours the idea that the return of fæcal matters is due to so immediate and complete an agency as antiperistalsis; and in support of such an inference, we might adduce the well-known fact, that under irritation the whole length of the human alimentary canal may be traversed in six, four, or even two hours; while in cases in which we can assign the precise time of strangulation, at least twenty-four hours are generally occupied in the passage of only a fraction of its length. But this argument might be considered hardly a fair one, since many would reply that the theory did not suppose a reversal of movement to ensue instantaneously on occlusion.

A more valid objection may be drawn from the comparative date of its accession in different cases. The time at which the symptom first appears, might indeed be expected to vary in direct relation with the distance of the stricture from the stomach; but observation shows that the true causes of such variations would only be partially stated. The rapidity of its occurrence in reality depends on the quickness with which

* It might be answered, that the emptying of this part occurred before the establishment of the retrograde movement, and that the defæcation only implied the action of the termination of the bowel, and not the part near the stricture. The *improbability* of this is manifest, but absolute disproof is difficult.

the tube above the occlusion becomes distended. And a further analysis of this distension shows it to be compounded of two things—length of cavity, and quantity of contents. And if these opposite elements be arranged as a fraction, the whole variation might be included in this simple formula—

$$\text{quickness of vomiting} \propto \frac{\text{contents}^*}{\text{height}}$$

—where, if the contents be constant, the rapidity with which fæcal vomiting comes on will be *inversely* as the height of tube to be filled; or, if the latter element be constant, will be *directly* as the quantity of fluid which secretion or ingestion together afford. Distension is thus not only essential to the occurrence, but is that which chiefly regulates its access. Now, distension is no more a condition necessary to antiperistalsis than to peristalsis, while, as will be hereafter shewn, it is essential to the theory which the author seeks to establish.

[To be continued.]

ON SOME OF THE

MORE PRACTICAL POINTS

CONNECTED WITH THE

TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
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[Continued from last volume, p. 1080.]

Of the simplest form of Curvature of the Bones of the Leg.

Outward curvature of the tibia and fibula, or *bow-legs* in its simplest form, is a very common affection in young children, from the age of twelve months, to five, six, or seven years. It is a deformity, as I mentioned in my previous paper, that may exist in children who appear otherwise to be strong and healthy; there need be no constitutional taint of scrofula or rickets, to which can be attributed the origin of the weakness in the bones and system generally; the bones may be simply too weak to support the weight of the body, the size of the child not being out of proportion; or the bones may be of their ordinary form and strength, but the size and weight of the child may be increased to an extent too much for them to support, which is equivalent to the bones naturally being too weak; for, in both cases, they bend from the weight upon them being too great. A fat healthy child may have simple curvature outwards of the bones of the leg, produced in this manner.

Some children are born with the tibia more curved than others: the curvature may then be increased when the child begins to walk, without there being any decided weakness either local or constitutional to account for it. The cause in these cases is purely mechanical; more especially if the child is put upon its feet too soon, and forced to bear his weight on the legs at too early a period. Many parents are careless and inattentive to their children when they first begin to walk, by allowing them to be in the erect position before the muscles have sufficient strength to take part in supporting the body, the consequence of which is that the bones and joints do not keep their proper relative position with regard to each other, by preserving the perpendicular bearing of the body upon them. Any inclination that may have originally existed will then be increased mechanically, without any unnatural softness in the bones themselves being present to account for the cause of the deformity. An example of this may be given, where the child, instead of being supported by the mother or nurse, when first put upon its feet, is allowed to lean on a chair or stool, the effect of which is, that the weight of the body tells upon the bones at a period earlier than nature intended—namely, before the muscles are strong enough to preserve the body in the erect condition: the child then moves with a kind of "waddle," and may cause the legs to be bowed outwards, owing to the want of the perpendicular bearing of the joints of the knees and ankles. Children should be *taught* to walk.

The form the curvature takes in these simple cases of bow-legs, is generally similar in all with regard to the part of the bone it occupies, though it may differ in severity. It is most frequently found to be a gradual curve, beginning

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* Or, vice versâ, the time preceding the occurrence $\propto \frac{\text{height}}{\text{contents}}$ *i. e.*, varies *directly* as the numerator, *inversely* as the denominator of the fraction.

about the middle of the bone, and extending down to the inner ankle: in severer cases it may extend as high in the upper third, and form a sharper curve towards the lower end. It is distinguished from the curvature of rickets, by the absence of the indentation that is generally found to a marked extent in the situation of the junction of the epiphysis to the shaft of thebone.

There is seldom any curvature of the femur in these cases, which might be thought to exist, however, when the feet are placed together, owing to the wide separation of the knees that then becomes apparent. If the legs are crossed so as to bring the knees in contact, the thigh-bones will then be found to be straight; whereas in rickets it is very common to find the femur curved, and to be a cause as well as the bow-legs of the inability to bring the knees together. Slight bow-legs may exist, and still not prevent the approximation of the knees: the child's gait is more or less altered according to the amount of curvature; if it be to a great extent, the child will walk with a kind of "waddle," and roll from side to side; if to a slighter extent only, little difference will be observed.

I have stated that the simple form of curvature of the legs that I am now considering, may occur in children apparently healthy: in very many cases, however, it can be traced to some cause by which the whole system has become weakened—such as the common infantile diseases — namely, measles, hooping cough, inflammation of the lungs, &c. Any of these affections may so far disorder or interfere with the functions of the body generally, that nutrition does not go on with the same vigour and power it did prior to the existence of the disease: the consequent effect of which is, that the various secretions are enfeebled to an extent to diminish in degree the development of all the textures, and the bones amongst the rest. The bones lose their strength, and are unable to bear the weight of the body, from the same cause that the muscles and other parts of the system are weak and ill-developed.

This weakness in the bones is sometimes traced to the period of dentition: it may have been observed to commence at that time; but, as I before stated, the backward dentition is merely a symptom of the same arrest of, or deficiency in, the development of the osseous system generally, and not a cause, as it is often supposed to be.

Before entering upon the treatment in detail of this simple kind of curvature in the bones, I shall consider a question which is by no means of minor importance, when so many hold an opinion in favour of it. The question I refer to is that of whether children will not "grow out" of these deformities of the bones of the legs, likewise those dependent on the weakness of the ligaments? Many, if not the majority of medical men, hold the opinion that they will, and that there is no occasion to interfere, but to leave it all to Nature to rectify, which they assert she will do as the child grows up.

The rational way to consider the question is, I think, the following:—1st. Do children ever "grow out" of these deformities of the bones of the lower extremities? If so—do they out of all of them, or only some of the simpler kinds? 2nd. What result occurs in those cases which Nature does not cure? 3rd. What object is gained by allowing the deformity to go on increasing for a certain number of years, even allowing that the child will ultimately grow out of it? 4th. Can they be cured by simple and effectual means? and, if so, ought not those means to be employed in all cases, to ensure the safety of the child from future permanent deformity? There are many points of importance to consider in reference to all these questions.

With regard to the first question, if asked whether children do not "grow out" of some of these curvatures of the bones? I answer, yes they do, but that by far the majority "grow into" them, and get worse. This one sees daily, when children are brought with the deformity rapidly increasing, when the parents, if asked how long it has existed, will say, perhaps for twelve months or two years, and that they took the child to some medical man who told them he would grow out of it. Now, the question I ask is this—what possible good has been gained by allowing that child to continue walking about during that period with the deformity existing and increasing, if it might have been cured in half the time? Why should a child walk about with bandy legs or knock-knees, for the first

seven, eight, or ten years of its life, (even allowing that at that age it might grow out of the deformity), when it might have been cured at the age of two, three, or four years; for, one thing is overlooked in these cases, that if Nature does not cure them before this late period, she very often will not at all, neither can the surgeon then assist her; for some of these curvatures of the bones become so "set," that they will not yield to the remedies which at an earlier period might have overcome the deformities with ease: the consequence of which is, that it always remains, and the patient has bowed legs for the rest of his life. Did children grow out of these deformities so often as they are supposed to do, there would not be so many cases of bowed-legs and knock-knees as are met with by those who take the pains to make observations amongst grown-up people. Many, I admit, are slight, but there is no reason why this should not be avoided in early youth, if it can be by simple means. There are other cases, however, where the deformity is not only so severe as to be offensive to the eye, but to interfere greatly with the strength of the limb, and with the power of progression.

I have acknowledged that some children grow out of these curvatures of the bones of the leg. These cases are generally of the simple kind I am now considering, where the constitution of the child is good, and where there is no apparent scrofulous or rachitic tendency, the curvature in the legs being simply owing to the weakness in the bone, rendering it incapable of bearing the weight of the body; the cause of this weakness being some derangement of the whole system produced by disease of some kind of a febrile or inflammatory nature, which has left the bones as well as other parts of the body in a state of debility. In these cases, as the constitution recovers itself, the bones get stronger, and return to their natural shape. The same may occur in many cases of knock-knees, where the ligaments have become weakened from the same cause: they are generally much longer in recovering themselves than the cases of simple curvature in the bones, for there is a leverage telling constantly against the ligaments, produced by the length and position of the thigh and leg bones having the force acting upon them, of the weight of the body above, independently of the action of the powerful muscle attached to the fibula, which is constantly tending to increase the deformity by separating the inner condyle from the head of the tibia.

Slight cases of the above nature may be cured by change of air, good nutritious diet, and proper strengthening medicine; and I would lay most stress upon the necessity of change of air, by which I mean of course country air: for I believe the majority of the children in whom these deformities occur are those who live in London or in other large towns. In these the change to pure country air often acts in a surprisingly short time, by reinstating all the functions to their natural power, and restoring at once the development of the whole system to its former strength and vigour. Little or no medicine will then be required.

It may be asked, whether in these slight cases any mechanical treatment should be employed as a means either of cure or of preventing the increase of the deformity? To this question I should give a qualified answer, and thus far—If the deformity has commenced under the unfavourable circumstances of bad air, and poor and insufficient nourishment, I believe the change of air and good nutritious diet may, in many of the slighter cases, do all that is necessary towards the strengthening of the child's constitution, and, with time, the strengthening of the legs will take place also. Many of the simple kinds of deformity of which I am now speaking may be cured by the adoption of the above means; and these are the cases where the children "grow out" of the curvature of the bones: on the other hand, if circumstances do not admit of the child being transferred to the country, and to have the benefit of purer air, I should say decidedly some mechanical means should be employed to support the limb of the child, with a double object—first, to prevent the curvature increasing; and secondly, to remove it, by gradually pressing the bones into their natural position and shape. For next in importance to removing a deformity is the prevention of its increase, and therefore every means should be taken to gain this object.

If the child have already lived in the country, and therefore never been placed under the unfavourable circumstances of breathing confined and bad air, and is affected with the curvature of the bones of the leg, I should still advise the use of mechanical support, for the deformity implies a weakness in the bones, which has shown itself under those favourable circumstances which are sufficient, in many cases, to remove it altogether. Some other remedy must then be looked for, more especially if the curvature shows a disposition to increase. Cases of this kind in country children, however, are comparatively rare.

It is asserted by some surgeons that *all* these cases of curvatures of the legs get well in time by themselves. That this is not true, daily observation in the streets of London, and other large towns, will convince any one, for numerous are the cases of bowed legs that will be seen, differing in degrees of severity, from the slightest form up to the most severe. But even allowing that the majority of cases become straightened without any interference, the point to be considered is, are there not other risks to be run by allowing the deformity to exist for a certain number of years before its removal? I believe there are; for although at first the curvature may only be slight, it cannot continue so without affecting other joints—viz. the ankles, knees, and hips: all become strained in an unnatural direction, owing to the proper perpendicular bearing of the body being altered; the ankle-joints more especially become affected, as evidenced by the position of the feet, the toes often being strongly inverted when the child walks, combined with which the ligaments of the smaller bones, the tarsus, become overstrained, and the arch of the foot thereby flattened, producing a weakness that may never be completely overcome, and leaving the foot permanently of an ugly and unnatural shape. If the "bow" increases to a great extent, the loins may become weakened, owing to the strain brought upon the lower portion of the spine by the rolling and "waddling" action the child has in walking. Another evil effect produced, and a powerful reason for removing the deformity, is, that the health of the child generally may become affected, owing to the incapability of taking the same exercise without producing fatigue, which the child could otherwise do. I am of course now referring to the severe cases of "bowed legs;" but it has to be remembered that the slighter cases may become severe, which, by itself, is quite reason sufficient to stop the deformity at an early period, did none other exist.

Having said thus much with regard to the propriety of treating all cases of bowed legs, rather than leave the child to "grow out" of the deformity, the following are the simple means to be adopted:—For the common slight form of curvature, all that is required is, two calico bandages, two small wooden splints, and six webbing straps with buckles—three for each leg, two broad ones, and one narrow. The splints should be long enough to extend from the condyle of the femur down to the edge of the sole of the foot: they are to be padded at each end with a pad large and thick enough to cover the inside of the knee and the inner malleolus. If the pad be made in one piece, the two ends should be thicker than the centre. The splints should be quite as wide as the thickness of the leg—if anything a little wider: the object of this being to remove the pressure from the fore and back part of the limb, and making the straps press upon the outer side principally. They are applied as follows:—Bandage the leg evenly, from the toes upwards to a little above the knee: the use of this being to equalise the circulation and guard the skin from the irritation and friction of the straps and pads. The splint is then to be placed on the inside of the leg, so that the upper pad may rest on the inside of the knee and the lower one on the inner ankle: care should be taken not to allow the splint to fall forwards, otherwise the lower end of it will press against the instep, and interfere with the child's walking, independently of preventing the pressure acting in the most favourable manner on the curve of the bone: the lower pad should also be thick enough to throw the end of the splint away from the foot. The knee and ankle straps should be attached to the splint in a position to correspond to these two joints when fastened, while the centre one should be left moveable to allow of its position being altered at pleasure,

to accommodate itself to the most curved part of the bone, opposite to which it should be placed. When the straps are tightened (and they should only be slightly so at first), the centre one should make the most pressure; care being taken to avoid pain and irritation on the skin, as well as swelling of the foot, which will occur if the ankle strap be too tight. If the inner malleolus be very prominent, and the skin very liable to become irritated by slight pressure, the lower end of the splint may be hollowed out opposite to the ankle; as a general rule, however, if the pad be made soft and thick, this is not required. The child should wear shoes and not boots; the latter give no real support to the ankle-joint, and only cause irritation to the skin when the straps are tightened on the pad that lies upon the boot: the former leaves the lower part of the leg quite free, and allows the ankle strap to be adapted to the lower end of the curve with more precision and effect than it would be if made to tell upon the hard leather of the boot.

The rules to be observed during the time the splints are being worn are few and simple:—To keep up sufficient pressure on the bone by gradually tightening the straps, more particularly the one or the two (if more than one are employed) that act upon the centre or most curved part of the bone. Never let the child stand without the splints; when it is necessary to take them off to wash the child, to let it lie down until they are reapplied. To guard against irritation of the skin by relieving the pressure if the child complains of pain. To attend to the general health of the child by giving strengthening and other medicines if required, and procuring change of air if practicable. Not to leave the splints off at once when the bones have become sufficiently straightened; to do so by degrees, beginning with an hour or two a day, and increasing the time every second or third day: the object of this is to avoid throwing the weight of the body suddenly on the ankle and knee-joints, by doing which an unequal strain might be made upon them, and a weakness produced, and a tendency to reoccasion the curvature, owing to the bones not being kept in the perpendicular position. There is one other point not mentioned, with regard to the thickness of the pad at the knees: if there be any tendency to knock-knees they should be made very thin, otherwise they only prevent the approximation of the thigh bones, and throw the feet outwards, and bring the strain inwards upon the knee-joints.

The length of time the splints will require to be worn must depend upon the period during which the deformity has existed, its degree of severity, and the age of the patient: as a general rule, the time will vary from six to twelve months; of course this being influenced by the above circumstances, as to whether it should be longer or shorter.

The above is the simple treatment by which outward curvatures of the tibia, or "bowed legs," may, in the first place, be prevented increasing, and in the second, be cured. There can be no reasonable objections to it, for it gives no pain or inconvenience to the child, and does not at all interfere with his walking, but, on the contrary, in the majority of cases, improves it, by the support given by the splints, creating a confidence that the child does not otherwise possess.

The deformity next in simplicity is the *genu valga*, or *knock-knees:* it occurs more frequently than the one I have just been considering. Knock-knees seldom shows itself before the child is put upon its legs, without it is weak and sickly from birth, or from some illness which has reduced the strength of the child generally, and the ligaments of the joints, as well as other parts of the body. The inside of the knee-joint is naturally weaker than the outside. Any increased weakness, then, that is caused by disease will show itself more readily, and may be increased by the action of the muscles even before the weight of the body falls upon the joint. This may be discovered by placing the legs in such a position that the patella looks directly upwards; and then, trying to approximate the feet, there will be a separation to a greater or less extent, according to the degree of weakness in the joint. In these cases of knock-knees before the child has walked, there is generally emaciation of the whole body; the legs are thin, and the joints look large, merely from the wasting of the soft parts around them.

without there being any rickets. The complexion is sallow and pale, and often there is a tendency to scrofula. Early weaning, or bad and insufficient nourishment, may be a cause of this weakness of constitution. It is difficult to conceive knock-knees being congenital, when the position of the child in utero is considered. This kind of deformity, however, in by far the greatest number of cases, commences when the child is first put upon his legs: the immediate cause is, then, mechanical, though the remote one may be constitutional. The weight of the body acting obliquely on the knee-joint, combined with the power of the flexor muscles, are sufficient to commence the deformity, and to increase it.

Simple knock-knee may commence after the period of childhood, and often does so, even up to the age of eighteen or twenty years. In these cases, one of two, or both causes, will most frequently be found to exist,—namely, either the boy (and it is seldom in the female) has grown very rapidly, when the bones grow out of proportion to the strength of the muscles,—the consequence of which is, there is not sufficient power to preserve them in their proper relative position to each other,—or the boy may have had to carry weights beyond his strength, when the joints are placed under equally unfavourable circumstances. Bakers, porters, and errand-boys, are very subject to knock-knees. The bakers, from the nature of their occupation, are seldom healthy: there is a want of strength and vigour in their joints as well as muscles.

When knock-knees makes its appearance after the age of childhood, the persons in whom it occurs will generally be found to be tall. The simple form is distinguished from that dependent upon rickets,—from the fact of the bones themselves seldom or never being affected with curvature; whereas, when rickets exists, or even a tendency to it, both the bones of the legs and thighs may be bent most severely in various directions. Simple *genu valga* may be present, like the simple outward curvature of the tibia, in many children who appear to be otherwise strong and healthy,—there being no constitutional taint, or any debility from disease and illness, to account for the local weakness of the joint: in these cases the origin may be purely mechanical, either from increased weight of the body, or from irregular action of the muscles.

As a general rule, both knees are affected with the same degree of inward inclination: it is not uncommon, however, to find one more so than the other, which can only be accounted for by supposing the ligaments of one of the knees to have been weaker than the other when the deformity first began,—causing a greater obliquity in the bearing of the weight of the one side, and so causing one joint to yield more than the other, and to continue to increase with the same irregularity, from the weight of the body telling with more effect upon it.

Knock-knees cannot exist for any length of time without affecting the ankle-joints; for the oblique position of the tibia throws the lower end so much outwards, that the arch of the foot is pressed upon more on its inner edge than the centre; the consequence of which is that the whole foot becomes tilted outwards and flattened, and in severe cases the arch is completely destroyed, and the inner margin of the foot, instead of being straight or slightly concave, is rendered convex, owing to the unnatural projection of the astragalus naviculare and internal cuneiform bones: in fact, the foot is in the condition of valgus, or *flat foot*, —produced secondarily, from the altered position of the knee-joints. Where the feet take this altered shape, in conjunction with the knock-knees, I believe it will almost always be found (where it exists in so severe a form as above described) that there is a tendency to rickets, or, at any rate, there is such general debility of the constitution, that other bones and joints are affected either by curvature or with enlargement of the epiphyses. I shall refer again to this point, when speaking of rachitic deformities.

The treatment of simple genu valga is to be considered under similar circumstances to those of simple outward curvature of the bones of the leg: 1st. Whether the child will grow out of the deformity; 2d. If not, what will be the result? 3d. What is the best treatment to adopt? The first and second questions may be confidently answered —namely, that many children do grow

straight, while many grow worse, until the knees become so much deformed as to require more than mechanical treatment for their relief, and to wear artificial support for a long time afterwards. The same rules are applicable to the treatment of the slight cases of knock-knees as mentioned when considering curvature of the tibia — namely, change of air, strengthening medicines, and good nutritious diet; and here I would again lay the greatest stress upon the necessity of giving the child the benefit of pure country air; and I do not think it matters whether it be at the sea-side or not, where the child has been living in comparatively impure air before. If this plan do not succeed, and the deformity continues to increase, I should certainly recommend mechanical support to the joints, whether the child be in the country or not; for if the knock-knees be but slight, the joints will be all the sooner brought into their natural position, and all risk of increase of the deformity avoided. In the severer form there cannot be a doubt, in my own mind, of the necessity of straightening the knees as soon as possible, to avoid the evil consequences of the ankle-joints and bones of the feet becoming so much displaced, that some permanent weakness may be produced, independently of the ligaments of the knee-joints themselves being so much weakened that they never regain their proper strength, and therefore lose all power of keeping the bones in position.

The simplest treatment, and at the same time a very effectual one, is that employed at the Orthopædic Hospital: it consists of two long splints, extending from the hollow of the loins down to below the outer ankle, to nearly the ground. The upper end of the splints are notched with a slit to pass a long webbing strap through: the object of this strap is to connect the upper ends of the two splints together, to keep them from falling too much forwards. This back strap should be so attached to the splint that it may lie in the hollow of the loins, just above the projection of the buttock: if it come on this latter part, it only displaces the splint and pulls it upwards, removing the lower end from the ankle; and if the strap be attached too high up, owing to the splint being too long, it will not press against the child's back at all, and it will not steady the splints, besides causing an unnecessary projection beneath the child's clothes. Having procured splints of the proper length and width, (the latter being the width of the child's leg about the knee), they must be evenly padded, by making a long cushion of wadding or loose soft flock, and covered with calico and wash-leather; (I often use dark-coloured leather in private practice,—it looks neater, and keeps cleaner). It is of importance to attend to the thickness of the lower end of the pad, which should be sufficient to throw the splint well off the outer ankle, to prevent the end of it pressing upon the instep, and so interfering with the child's walking. The pad should not come quite to the end of the splint: it must be fastened to the splint, either by turning it over the edge of it and running it across, or by piercing it through with small loops. If the pad and splint be not fastened together, neither the one or the other will keep its place. If the common deal splints are used, the lower end is notched, to allow of the ankle-strap (which must be longer and narrower than the one for the knee) being once twisted round it before it is passed round the ankle, or it may be tied and fastened through with a loop. By keeping the ankle-strap fixed to the splint, the two are preserved in their proper position. Having placed the splints, then, on the outside of either leg, seeing that the upper ends are resting against the trochanters of the thigh bones, and the lower on the outer ankles, they are to be fixed in this position by buckling the upper strap across the loins, and the lower ones round the ankles. The next point is to confine the knees, and this is done by applying a broad webbing strap round the joint, taking care that it embraces the head of the tibia as well as the condyle of the femur. It is then to be buckled sufficiently tight to draw the knee outwards towards the splint. In slight cases the joints can be straightened at once by these means; in the severer cases it must be done more gradually, by tightening the straps a little more every second or third day.

By adopting the above treatment till the knees keep their proper position,

when the splints are taken off, all cases of slight knock-knees may be cured in from three to six months. The severer cases occupy a longer time, and require other treatment, which I shall refer to in my next paper. One important rule to observe in the employment of the splints is, *never to let the child stand without them before the legs are straight*, and to keep the splints always on the outside,—not to let them fall forwards, when all purchase on the knee-joints would be lost. The legs must of course be evenly bandaged before the straps and splints are applied, to prevent the feet swelling, and the skin being irritated. When the child is washed, and the bandages changed, it should always be made to lie down, to avoid any strain on the ligaments of the knee; for more mischief might be done by so doing, than could be recovered from for some time, and the treatment be thereby unnecessarily prolonged.

[To be continued.]

CONTRIBUTIONS TO PATHOLOGY.

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[Continued from last vol. p. 1084.]

Series IV. — Carcinomatous Lesions.

Case LII.—*Fibro-cancer cerebri and fibroma uteri.*

E. L., æt. 54, married, and had children; had hemiplegia of the right side; very stout; much *embonpoint*.

Insp. cad.—Brain weighed 44 oz.; firm, not bloody, nor vessels much congested; much liquor spinalis.

Dura mater.—Natural, but closely adherent to both the calvarium and to the arachnoid and pia mater on the left parietal region, where the convolutions were nodulated, easily torn, and all impacted together along this region. On the upper and lateral parts of this hemisphere the brain was changed into an areolated fibrous tissue of some firmness, of a bluish grey colour, with red vessels permeating; and there were also three irregularly formed depôts of a sub-yellow granular matter, but without any cysts or demarcating membranes. A small deposit of the same two substances, fibrous and granular, was in the anterior lobe; half an ounce of fluid in each ventricle; the plexus was enlarged, and appeared to have been highly vascular during life, but now more or less exsanguine.

Lungs.—Small, healthy, with some cretaceous accretions in and about the bronchial glands.

Heart.—Small, fat, and flabby.

Liver.—Weight, 2lbs. 12 oz.; normal.

Gall-bladder.—Distended with bile.

Intestines. —Very capacious, with much fat in the omentum. The adipose deposit was three inches thick in the abdominal parietes.

Uterus.—Large, nodulated, and had four fibrous tumors encysted in the posterior muscular walls, and another as large as an orange, having a pedicle attaching it to the internal surface of the organ. There was also a similar tumor in the cervix, of the size of a nutmeg, and another excentric and lateral, giving the appearance of an unequally double uterus, but withal encysted and enclosed in its distended and more exterior parietes.

Case LIII.—*Cancerous ulceration of the uterus—Obstructed ureters and dilated pelves.*

M. O'N., æt. 44: died 18th August, 1845.

Insp. cad.—Corpse moderately full; some œdema of the legs.

Lungs. — Healthy, but posteriorly congested; very watery, and spongy throughout, without any tubercles or granules of pus.

Liver.—Weight, 2 lbs. 6 oz.; normal, but anæmiated in all its vascular systems.

Heart.—Natural, firm, and rather hypertrophied in the left side.

Stomach, intestines, and *spleen,* normal externally.

Kidneys.—Mottled, red, and buffy, and somewhat nodulated; left one small and anæmiated, its pelvis and ureter very capacious, while the pyramids and even the cortical part were much encroached upon, and had suffered absorption from the distended pelvis. The right one was larger, and had undergone the same modification from an enlarged pelvis, which would

have contained four to six ounces of urine.

Uterus.—Enlarged, hard, and fixed in the pelvis by firm adhesions and contractions of the surrounding tissues, involving likewise the bladder and the anterior wall of the rectum. Interiorly, of the capacity to hold an orange, and was ulcerated all over; beset with rough and ragged shreds, and thickly covered over with grey purulent matter. An ulcerated opening of some date communicated with the bladder, through which the urine had flowed into the uterus; terminations of the ureters were among much condensed and matted tissue; the os uteri beset with a ragged and softened border.

CASE LIV.—*Cancer uteri—Distended ureters.*

H. R., æt. 75: died 12th January, 1846.

Insp. cad.—Corpse well formed; fair *embonpoint.*

Lungs.—Healthy, but with moribund and cadaveric congestion posteriorly; an old firm pleural band in the left side.

Heart.—A little hypertrophied in the left side; valves and large vessels normal.

Liver.—Weighed $2\frac{3}{4}$ lbs.; smooth, dark, livid, bloody, fleshy; no hepatic acini seen by the naked eye; by the microscope were observed a few fat ovules, and the hepatic cells seemed perfect, but attenuated, easily broken down, and diffused into *quasi* nuclei and granules.

Gall-bladder.—Thickened, and half full of thin liquid bile.

Spleen.—Atrophied.

Kidneys.—Elongated, condensed, and proto-granular; pelves of both, large and distended with urine; ureters large, and full of urine.

Uterus.—Semi-globular; dark livid; and had suffered ulceration throughout the lower half, involving the os and cervix. The ulceration had perforated the bladder, which was contracted, ragged, and internally inflamed. The ulcerated surfaces of the uterus were loaded with grey putrescent matter, pus, and shreds.

CASE LV.—*Cancerous tubera of the liver.*

J. M., female, æt. 50; one week in the hospital: died the 8th Feb. 1846.

Insp. cad.—Corpse much emaciated.

Lungs.—Adherent to the costæ; dark livid; soft and congested; passive *engorgement.*

Heart.—Normal, livid, and soft; rather an abnormal amount of fluid in the pleuræ and pericardium.

Liver.—Weighed 7 lbs. 12 oz., and very irregular in form: the left lobe as broad as the right, and extending to the left umbilical region, while the right was in its natural situs. The whole organ was exteriorly nodulated, and its general surface livid, with much capillary arborescence, and beset with whitish tubera, elevating slightly the peritoneal coat. On section, the right lobe was found converted into one coalescent mass of whitish tubera, firm, heavy, and elastic. In the left lobe, the tubera were generally isolated, some as large as a walnut, others as a hazel nut, and others of the size of a pea and mustard seed; thus showing that the hepatic lobuli were the *primi loci* if not the *fons* of the lesion—then followed their enlargement and the heterologous deposit.

Gall-bladder.—Full of thick muculent bile, and containing a large calculus of picromel and cholesterine. Other organs softened, but normal.

CASE LVI.—*Cancer uteri—Morbis cordis—Vomica.*

J. H., æt. 50: died 25th February, 1846.

Insp. cad.—Corpse of good *embonpoint;* abdomen full.

Lungs.—Largely developed; slight adhesion, with some serosity, in both pleural sacs: they were crepitous yet watery, with some bronchial and slight pneumonic phlogosis. A small vomica in the apex of the left, surrounded by isolated indurations, having curdy tubercle and cretaceous nodules for their nuclei, and having much the appearance, superficially, of scirrhous tumors.

Heart.—Large, firm, with some patches of granular lymph on the surface; and the interior muscular fibres and the columnæ carneæ were hypertrophied and hardened: the valvular circle and the aorta at its base were spotted with flakes of atheroma, especially about the line and orifices of the coronary arteries.

Stomach.—Large, and distended with gas.

Intestines, mesentery, and *pancreas,* normal, as far as examined.

Uterus.—Hard, livid, impacted in the pelvis, and from the cervix upwards in a state of grey, purulent ulceration, interiorly.

Bladder.—Thickened, and glued to the uterus by matted tissue.

Liver. — Weighed 2 lbs. 13 oz., smooth, livid, and mottled. On section, bloody, and all the structures much developed; the lobuli more consolidated in some parts than in others, but the biliary ducts, with the hepatic arteries and veins, very visible, while the portal system seemed a little congested. By microscope, cells much developed, but no fat-ovules.

CASE LVII.—*Cancer penis—Cancerous cyst in the heart.*

W. R., æt. 41: died, from exhaustion, the 5th May, 1846.

Insp. cad.—Lungs: Œdematous, grey, and tissue softened, with some effusion in the pleural sacs: otherwise normal.

Heart.—Of normal size, but spherical in form, and had embedded in the lower part of the left ventricle a cancerous cyst about the size of a small orange. It was fibrous and crystalline, whitish and grey: encysted, but interiorly only covered by the thickened endocardium.

Liver.—Of normal size; pale, bloodless; portal venous hyperæmia, with a few dark slate-coloured and circular spots throughout.

Penis.—Destroyed nearly down to the pubis by a fungous and cauliflower ulcer; covered with thin watery pus, having a cancerous odour. Glands in the right groin enlarged, inflamed, and about to suppurate.

CASE LVIII.—*Carcinoma of the omentum and uterus.*

A. D., æt. 54; came into hospital six weeks before death: afflicted with ascites, anasarca of the lower limbs, and with intermittent pains in the abdomen; diarrhœa and great debility. The ascites and anasarca were dispersed, but the abdomen felt knotty and full to the hand, which gave pain on moderate pressure. Bowels and urine regular; and increased debility, with orthopnœa, closed her life the 13th Sept. 1846.

Insp. cad.—Corpse emaciated; abdomen tumid; and upon pressure of the hypogastrium a sudden subsidence took place, giving the sensation of some fluid or flatus having escaped from under the hand.

Chest.—Each pleural cavity had near two pints of serum.

Lungs.—Normal, unadherent, smooth, but spongy.

Heart.—Pericardium contained four ounces of serum; enlarged to one-third more than natural; parietes of right ventricle firm and elastic; those of the left hypertrophied.

Liver.—Large, firm, grey-mottled; portal system congested; hepatic ducts filled with yellow bile, which also filled the gall-bladder.

Spleen.—Small.

Kidneys. — Enlarged and hyperæmiated.

Omentum.—Greater, and less converted into attached and racemose groups of pisiform tubera, resembling bunches of small grapes, white, buff, yellowish, and often red and hard, and connected with each other by tissues of ramified bloodvessels, which supplied a nutrient vessel to the pedicle of each little tuber; no interstitial tissue, but solely vascular connections. The same kind of *tubera* were planted sessile on the lower surface of the diaphragm, and a few on the liver and large intestines. By the microscope, these tubera contained angular and fusiform cells.

Uterus and ovaria.—Presented one large mass of scirrhus, containing four or five free cysts which were filled with bloody serum (hæmatoid).

Bladder.—Was also involved posteriorly in the scirrhous mass; it was thin towards the fundus, where it had suffered rupture from pressure of the hand.

CASE LIX.—*Cancer of the pylorus. Peritonitis of the liver.*

S. R., female, æt. 50: no history, but came into the hospital with tumid and very painful epigastrium, and pain of the umbilical region; costive nine days: died 6th October, 1846.

Insp. cad.—Lungs natural; right adherent to the costæ.

Heart.—Large, loaded with fat; valves normal; 4 oz. of serum in the pericardiac sac.

Liver.—The upper free part and lower surfaces covered over with dense, buffy, and granular lymph, with an encysted cavity, between the upper sur-

face and the diaphragm, filled with purulent serosity, and mixed with lymphous flakes; gelatinous and aplastic exudations extended towards the right lower edge. Parenchyma firm, granular, not bloody.

Gall bladder.—Half filled with thin bile; *lesser omentum* thickened, massive, vascular, and semi-scirrhous.

Stomach.—Left extremity natural, smooth, and villous on its mucous surface; pyloric end beset all around by a tuberous and fungous carcinoma; hard, mammillated, and well-defined on each side, and without much or any erosion. Duodenum natural, soft in texture, and villous internally.

CASE LX.—*Gangrena sicca—Scirrhous pylorus.*

M. M'N., female, æt. 64, a widow, was admitted into the hospital on the 12th October, 1844, in a state of great exhaustion, some mental insensibility, and a scarcely perceptible pulse: altogether in a condition of general collapse. The right leg was especially cold, somewhat rigid, but suffered much pain when it was moved, and it remained deadly pale and icy cold for some time after reaction and warmth had returned over the rest of the body. In two days the sensation of cold had left the limb, and sensibility had returned, but excruciating pain was complained of from the middle of the right thigh down to the toes. With the return of natural warmth, a red suffusion took place over the anterior aspect of the leg, and the upper part of the foot put on a dark scarlet blush, which disappeared on firm pressure. The red and scarlet suffusion in three days gave place gradually to a livid hue over the whole foot, and to a dark congested condition as far as the knee. A subsidence of the foot and ankle next followed, and merged into a dark brown desiccation, with an exfoliation of the nails. A line of demarcation in a few days afterwards declared itself between what seemed the irrecoverably gangrenous and the yet vital portion of the limb, at a line across the middle of the leg. Though this line of separation became more defined, and gave some promise of a reactive excision of the distal mortified part, yet this flattering feature was but transitory; reaction in three days failed, and shrinking, with desiccation, proceeded up the limb, till death took place on the 31st October.

Pain continued throughout severe, notwithstanding large doses of opium; diarrhœa was also distressing and exhausting; the pulse could not be felt in the ham nor along the thigh of the affected limb, but full and sharp high up in the groin.

Insp. cad.—External iliac artery on the right side was healthy, soft, and elastic. The femoral continued normal also, till about an inch below the profunda, where it became thickened, denser, and inelastic, which like condition continued throughout the anterior and posterior tibials, till they were lost in the putrescent tissues of the leg. The whole calibres of these arteries were filled with red fibrous coagula, adhering by small fibrillæ to their inner coats, but especially at the upper part near the profunda, where the femoral artery seemed phlogosed, enlarged, and reddened internally. No ossification nor atheromatous deposit observed. The femoral veins and saphena were full, and distended with dark and lymphous coagula, and having varicose knots in some portions, but no total occlusions observed.

The *nerves* were reddened, tumid, and softened, as the line of the gangrene was approached.

On the right side a spherical, indurated, and irreducible omental *hernia*, the size of a small egg, was found, and adhering to the internal aperture of the ring was a portion of the ileum, by a few adventitious fibres.

Stomach.—The pyloric end was beset all around by scirrhous nodules, having on the posterior side a cavernous ulceration, nearly penetrating the coats of the viscus, a long with much adhesion externally, and matting to the liver and lesser omentum.

Remarks on the foregoing carcinomatous cases.

It will be seen, that with the exception of one case, the whole of the *cadavera* were those of females,—confirming so far the general observation, of cancerous diseases prevailing more in this sex than in men. It is also worthy of notice, that, though the brain and several of the thoracic, abdominal, and pelvic organs, were affected with one form or another of cancer, yet in none of the eight cases were the mammæ

the least contaminated with either sympathetic enlargement or special deposit,—which in a limited manner confirms observations otherwise made, that where the mammæ are affected with carcinoma, the internal organs and *tissues* remain free, until they are consecutively affected from contiguity, as the pleura and lungs, through the walls of the chest, which did not even occur in Case 31st, where the right lung was cancerous.

Thefifty-second case was remarkable for the weight of the diseased brain, as well as for the very distant localization of the disease, without any intermediate trace of the adventitious deposit in the chest or the abdomen. The morbid lesion seemed first to have been of the nature of fibroma in the brain, but from the softer nidus, medullary degeneration took place sooner than if these tumors were in firmer organs, such as the walls of the uterus. It is, however, denied by some authors that have paid much attention to the subject, that fibrous tumors ever become cancerous, wholly or in part, and where this is said to take place, it is owing to a mere diffluence of the *tissue.* Though Dupuytren and some others assert the change may take place, yet "*non nobis componere,*" and it will likely not be easy to satisfy pathologists on this subject, till a more definite test of the nature and appearance of cancer and its cells, by the microscope or otherwise, be laid down for the guidance of general observers, in order to ensure a scientific distinction.

In Cases fifty-three and fifty-four, we may remark how much the induration and impaction of the uterine walls, and the cortical tissues previous to ulceration, had obstructed the ureters, giving rise to those varicose distensions of the ureters, enlargement of the renal pelves, and from reactive pressure, to absorption of the textures of the kidneys. In contemplating the destructive changes that have taken place in these and adjoining organs, as the bladder, we cannot, even without any clinical knowledge of the living sufferers, but have a very pitiful conception of the pains and miseries that must have been endured. I know of none more wretched, and yet so much out of the reach of even alleviation.

Case fifty-five fully typifies the species of medullary cancer of the liver, as described by Rokitansky (Path. Anat. vol. ii.), and by Dr. Budd (Diseases of the Liver, p. 300), in which this latter author shows that the disease originates in the lobules, and not in the areolar tissue in the small portal canals, which accords with the observations made in our case.

The fifty-sixth case, from exhibiting the co-exsistence of cancer with vomica and other special characters of tuberculosis, offers a very rare exception to the general independency of cancer. Dr. Walshe mentions, that among 104 cases of death from cancer, there were but seven in which the anatomical characters of phthisis were present. There must also be much difference, if not an antagonism, between the vito-chemical actions going on in the two diatheses; for in tuberculosis there is great absorption of the fat and adipose tissues, while in cancer the deposit of them is often great, and even abnormal in the abdominal walls and organs.

We may infer from the cancerous cyst formed in the inner side of the ventricular walls of the heart in the case of cancer of the penis, that it was secondary, and in all likelihood owing to the deposit of a cancer-cell absorbed from the ulcerated penis by the pubic veins, and so carried to a nidus in the endocardium.

The forty-eighth case affords an example of a rare species of areolar cancer besetting the peritoneum, and especially the omental expansion of that membrane. The disease may be considered secondary, or propagated from its primary seat, the uterus; though, according to Rokitansky, it may and has occurred as a primary affection. The case in our list was remarkable for the sessile and pedicular nature of many of the little tubers, each having a very observable nutrient vessel for its supply. The case of cancer of the pylorus was, as in similar cases, marked by the disease being well defined towards the duodenum, which remained in a soft and normal condition, though it is surmised that the extensive lesions of the covering of the liver had radiated from the primary affection of the pylorus.

The case of *gangrena sicca* certainly betrayed lesions in the bloodvessels of the affected limb sufficient for the arrest of nutrition, and consequent sphacelus; but whether the initial change

was in the vessels, or in the altered circulation of the limb, is, perhaps, not easy to decide. Whatever was its exact nature, it is probable that the first link in the destructive catenation was laid during the period of collapse and enervation of the body and mind; but how far this depression and shock were connected with some sudden step in the progress of the cancerous lesion in the stomach, we can go no further than a feeble conjecture.

[To be continued.]

CASE OF TWINS OF EXTRAORDINARY SIZE. BY DR. BERTOLET, OF OLEY, PENNSYLV.

Early on the morning of the 15th of April, 1848, I was requested to meet Dr. Thompson in consultation, at five o'clock, in the following case:—

Mrs. A. H., in her sixth labour, was seized with regular pains at ten o'clock on the previous morning, and at two o'clock, after having been in labour four hours, was delivered of a fine, vigorous female child. The vertex presented to the left acetabulum, and the infant, after it was born, weighed *nine and a half pounds*. The labour pains then ceased for a time, but soon recurred with increased violence. Upon examination, the right hand of another child was discovered high up in the vagina; this was returned within the uterus, after which the vertex presented very nicely in the second position at the posterior strait. We now had hopes that all further assistance would be unnecessary; but after waiting for a considerable time, the head still continued in exactly the same situation. There had been a constant flow of blood from the time the first child was born, and the patient's strength was becoming exhausted. I succeeded in applying the *long forceps* after some difficulty, and soon delivered the lady of a male child of unusual size; it was still-born, and weighed *eleven and a quarter pounds*, making an aggregate weight of twenty and three-quarter pounds contained in the uterus beside the secundines.

After the second delivery, the hæmorrhage ceased, and no unpleasant symptom occurred to retard the quick recovery of the patient. Both mother and child are now perfectly well.

Mrs. H. has had previously to the above, five natural labours and two abortions, immediately preceding her last accouchement. All this took place within twelve years: if she had been safely delivered at full term in all these cases, therefore, she would have had nine children.—*Phil. Med. Examiner.*

MEDICAL GAZETTE.

FRIDAY, JULY 6, 1849.

We have received a pamphlet professing to be a report of the Proceedings at the Mesmeric Institute of Bristol. The Mesmerists claim the Earl of Ducie as President, and represent him as stating that he had been "cured" of Gout by Mesmeric treatment. They also assert that he is a believer in "mental travelling," "introvision," &c. &c. We are inclined to think that the affair is a hoax from beginning to end, and that the concocter of the so-called report has been guilty of a species of "mental travelling" by no means uncommon among enthusiastic advocates of particular doctrines. From what we can learn, the facts are these. About two years since, Lord Ducie, after having undergone a fair trial for the treatment of gout by mesmerism, in the hands of various lay and medical mesmeric practitioners, became so much worse that he consulted Dr. Robert Fergusson respecting his condition. By the advice of this physician, he went to the Mediterranean for a change of climate. While abroad and since his return, he has been under the care of Mr. Spencer Wells, who has never practised mesmerism; and we are credibly informed, that while under his care, Lord Ducie has not submitted to mesmeric practices from others. His lordship, notwithstanding the boasted results of mesmeric treatment, is not yet cured of gout.

We notice this subjeet, because any statement alleged to have been made on Lord Ducie's authority, is calculated to meet with attention from the public; and this statement of the cure of gout by mesmerism, which has been falsely attributed to him, reflects undeservedly

upon the non-mesmeric portion of the medical profession. In one report it is alleged that he has been cured; in another that he has experienced very great relief: but that neither report is worthy of credit, is proved by the fact that after so much mesmeric treatment his Lordship was compelled to go abroad for the benefit of his health. Like a reasonable man he discontinued these mesmeric absurdities, which had actually brought him to a worse condition, and thenceforth took regular advice under an experienced medical practitioner. We put it to our readers whether it is at all probable that a nobleman of Lord Ducie's standing, who has thus practically shown his entire disbelief of the alleged benefits of mesmerism, should have given utterance to the fulsome laudation of this species of quackery which the mesmerists wish the public to believe.

It is with regret we perceive from the weekly return of the Registrar-General, that there has been a considerable increase of deaths from cholera. In the previous week they were 49: in the week ending Saturday, June 30th, they amounted to 124, of which number 76 were males, and 48 females. The greater number of deaths from the disease took place at the adult period of life. There were 5 fatal cases under five years of age; 21 between five and fifteen years; 88 between fifteen and sixty; and 10 above sixty. The cases have chiefly occurred in the south and east of London, in low, crowded, and damp situations, where the sewerage is notoriously defective.

It would thus appear that the cholera is pursuing the course which it followed in 1831-2, in reappearing during the summer season: but there is great reason to hope that its progress will be milder than on the former occasion.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES

Delivered at the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture III.

Healing by immediate union; its relation to Hunter's "Union by the first intention." Description of cases. Essential characters of the process: the conditions necessary for it.

Healing by primary adhesion; its similarity to Hunter's "Union by the adhesive inflammation." General account of the process, and of its relation to other modes of healing.

Healing by granulations. General stages of the process. Periods of repose and of increased vascularity. Production of new substance. Formation of granulation-cells, and their developement into cellular or connective tissue and cuticle; their deviations from this process.

I proceed now to the description of the several modes of healing of wounds, and shall at present speak of only such wounds as are externally open. Among the modes which I enumerated, the first was that which, as I stated in the preceding lecture, is effected by immediate union. It corresponds with what Mr. Hunter called union by the first intention; but since that term has been applied more recently to another mode of healing, I have adopted the term "immediate union" from Dr. Macartney, who, so far as I know, was the first to observe clearly that the healing of wounds may be effected "without any intervening substance, such as blood or lymph."* He says—"The circumstances under which immediate union is effected, are the cases of incised wounds that admit of being, with safety and propriety, closely and immediately bound up. The blood, if any be shed on the surfaces of the wound, is thus pressed out, and the divided blood-vessels and nerves are brought into perfect contact, and union may take place in a few hours; and as no intermediate substance exists in a wound so healed, no mark or cicatrix remains behind.

"We have familiar examples of this mode of healing in slight cuts received on the fingers, which, after being bound up, if no inflammation be induced, perfectly heal without the individual having any unplea-

* Treatise on Inflammation, p. 59.

sant sensation in the part after the moment of the infliction of the wound. A case has been lately communicated to me, of a considerable cut of the hand having been cured by this mode of direct union, without any sensation of pain, and in the short space of four or five hours."

It is singular that Dr. Macartney should speak of the process of immediate union occurring in so few and very trivial instances as these; for it seems certain that many even very large wounds are usually, in favourable circumstances, thus healed. The characteristics of this mode are, that the divided parts, being placed in exact contact, simply conjoin or re-unite: no blood or new material is placed between them for a connecting bond, and no sign or product of inflammation is present. All these characteristics meet in such cases as the favourable union of flaps of skin, which have been reflected from the subjacent parts, and are then replaced or transferred to some other adjacent wounded surface.

The instances in which I have best observed it have been after operations for the removal of the mammary gland. In these operations, as you know, the usual proceeding is to remove some of the skin, including the nipple, and to uncover the rest of the surface of the gland by reflecting from it an upper and lower flap of skin. Then, the gland being removed, these flaps, which are often of considerable extent, are laid down upon the parts on which the base of the gland rested, chiefly upon the fascia over the great pectoral muscle.

A specimen which I have here will illustrate the healing that may now ensue. It was taken from a woman 33 years old, who had her breast and several axillary glands removed for cancer. Her general health seemed good, and all went on well after the operation. The flaps, which were of course very large, had been carefully laid down, strapped with isinglass plaster, and well tended. They appeared to unite in the ordinary way, and there remained only a narrow space between their somewhat retracted edges, in which space granulations arose from the pectoral muscle. Three weeks after the operation these were making good progress towards cicatrization; but erysipelas and phlebitis ensued, and the patient died in four or five days.

I cut off the edges of the wound with the subjacent parts, expecting to find the evidences of union by organized lymph, or, possibly, blood. But neither existed; and the state of parts cannot be better described than by saying, that scarcely the least indication remains of either the place where the flap of skin was laid on the fascia, or of the means by which these parts were united. It was not possible to distinguish the relation which these parts held to each other from that which naturally exists between subcutaneous fat and the fascia beneath it. There was no unnatural adhesion; but, as the specimens will still show, the subcutaneous fat which did lie over the mammary gland is now connected with the fascia over the pectoral muscle, just as (for example) the corresponding fat below the clavicle is naturally connected to the portion of the same fascia that lies there. I could find small points of induration where, I suspect, ligatures had been tied, or where possibly some slight inflammation had been otherwise excited; and one small abscess existed under the lower flap. But with most careful microscopic examination, I could discover no lymph- or exudation-corpuscles, only small quantities of what looked like the débris of such oil-particles or corpuscles of blood as might have been between the surfaces when the flaps were laid down. In short, we cannot otherwise or more minutely describe this healing than by the term "immediate union:" it is immediate, at once in respect of the absence of any intermediate substance placed between the wounded surfaces, and in respect of the speed with which it is accomplished.

Opportunities of examining wounds thus healed being rare, I made three experiments on rabbits (with my friend Mr. Savory), and found the description I have just given quite confirmed. The specimen I have here affords a good example. A portion of skin that my extended fingers would just cover, was raised from the back of a rabbit, replaced and fastened down with a few sutures. Three days afterwards the rabbit was killed: the edges of the wound were slightly retracted, and the space between them was covered with scab; for about half an inch under the edge of the replaced flap of skin, the tissue was inflamed and infiltrated with exudation-matter; but beyond this no trace of the injury or of its healing could be seen. The parts appeared as they had appeared before the operation. Even the microscope could detect only a slight infiltration of inflammatory matter, which one might certainly ascribe to the wound being open at its edges, and to some hairs having by accident been enclosed under the flap when it was replaced.

Of course, it is only from such examinations as these after death, that we can speak certainly of the absence of inflammation and of all intermediate uniting substances, yet confirmatory evidence may be obtained from the examination of any such wound during life,—I mean any such case as that of a flap of skin raised up, then laid down on the subjacent wounded surface, and there uniting favourably; or any case of that kind of plastic operation in which a flap is raised, and then made to slide to some further position. In such cases, with favourable pro-

gress, no sign of inflammation is observed; though, if the skin were in even a small degree inflamed, it could scarcely fail to be manifested by the ordinary appearances of redness and heat. If the flap be pressed, no fluid oozes beneath its edges (I speak, of course, of only such cases as are making favourable progress), and after one or two days, according to the extent of the wound, the flaps will move on the subjacent parts,—not with the looseness of a part separate from them, nor with the stiffness of one adherent through inflammation, but with the easy and pliant sliding which is peculiar to the natural connection of the skin with the subjacent fascia.

Such is the nature of "immediate union," the best imaginable process of healing. Two conditions appear essential to it—first, exactness of the coaptation of the wounded surfaces; and secondly, the absence of all inflammatory process.

To obtain the former, the simple replacement of the raised pieces of skin may sometimes be sufficient. But there is a class of cases to which this mode of healing is peculiarly applicable, and in which more than this may be required: I refer to the removal of large subcutaneous tumors,—fatty tumors and the like,—where, after the operation, large cavities are left, and commonly left to granulate. In these cases I venture to express my belief that modern surgery does not often enough employ the older method of carefully and softly padding the parts, and of so bandaging them that the exposed surfaces may be held in contact for the one, two, or three days necessary for immediate union. Many surgeons, I know, commonly employ these means; but by many,—and, I think, the majority,—they are avoided, through fear of exciting inflammation by over-heating the parts, or hindering the discharge of secreted fluids. Doubtless, no single rule of management would be safe; but I think with regard to this fear of exciting inflammation, it need not be entertained, if the means I have alluded to be employed only during the first two or three days after the infliction of the wound. For one may generally observe that, for at least two or three days after such an injury as an amputation, the raising a flap of skin in a removal of the breast, or the like, scarcely any reparative process appears in the parts that are kept from contact, no granulations are formed, no pus secreted, only a little serous-looking fluid oozes from them. Now, during this calm, which would certainly never be disturbed by the parts being softly padded and kept in perfect rest, the immediate union may be accomplished: if, through any untoward circumstance, it be not in this period completed, its occurrence is, I believe, impossible, and then the means more appropriate for other methods of healing may be employed.

The attainment of the other necessary condition,—the absence of inflammation,—is quite consistent with these means for insuring perfect and continued contact of the wounded surfaces. How the condition is to be fulfilled I need not say: the means are some of those that are commonly laid down for preventing inflammation from being, as it is said, more than is necessary for the union by the first intention; and the best of them are temperance and rest. The necessity of observing them will appear the greater, if it is remembered that what is wanted for immediate union is, not a certain undefined slight degree of inflammation, but the complete absence of inflammation;—for, the probability of the occurrence of immediate union may be reckoned as being in an inverse ratio to the probability of inflammation occurring in the time necessary for its accomplishment.

I pass now to the second mode of repair that I enumerated—that, namely, *by primary adhesion*.

This is the process which Mr. Hunter named union by adhesion, or union by the adhesive inflammation. My reasons for preferring the term "primary adhesion," will presently appear. He says (vol. iii. p. 253,) "Where the former bond of union," [*i. e.* the union by blood or by the first intention], "is lost in a part, to produce a new one, a second operation takes place—namely, inflammation." Observe how carefully Mr. Hunter distinguishes the case in which inflammation ensues, from that in which none is necessary: and presently after, "if the divided parts are allowed to remain till the mouths of the divided vessels are entirely shut, inflammation will inevitably follow, and will furnish the same materials for union which are contained in extravasated blood, by throwing out the coagulated lymph; so that union may still take place, though some time later after the division of the parts. This inflammation I have called the adhesive." On this sentence, Mr. Palmer, expressing the opinion entertained by all the pathologists of ten or twelve years ago, says—"It is now generally considered that union by the first intention and adhesive inflammation are essentially the same processes, modified by the degree of inflammation. Union by the first intention is uniformly attended with some degree of pain and swelling, together with increased heat and vascularity, which, taken conjointly, constitute the definition of inflammation." And again: "According to the modern views, the modes of union above detailed" [*i. e.* the modes of union included by Mr. Hunter under the union by the first intention], "are always accompanied by adhesive inflammation . . . . The parts are united, not by the extravasated blood be-

coming vascular, but by the effusion and organization of coagulable lymph."

After what I have said respecting the process of immediate union, it may appear that Mr. Hunter was more nearly right than his successors. It would be an instructive piece of the history of surgery to show, exactly, how this truth being mixed with error came, therefore, to be thrown away, and to make room for an error which had less truth mixed with it. The stages of transition in opinions seem to have been that—first, sufficient reason was found for disbelieving his statement, that blood forms the bond of union by the first intention; then, as it was assumed that there must always be some intermediate bond, this, it seemed, could be none but coagulable lymph. Now, coagulable lymph being known only as the product of inflammation, it followed that inflammation must be necessary for the healing of every wound; and then there ceased to be any distinction between the union by the first intention and the union by adhesion; both alike seemed to be the result of lymph, the product of inflammation, being effused between the wounded surfaces, and united to them both.

The typical examples of union by primary adhesion may be watched in the cut edges of skin that are brought close together. Here, when the cut surfaces are not in exact contact, the wound is exposed, and lymph is formed, and fills up the space; or, when they are in contact, the sutures, or other means employed to keep them so, excite inflammation enough for the production of some lymph between them. The lymph organizing itself, and becoming vascular, connects the two edges or surfaces, and forms between them a thin layer of cellular tissue, on the surface of which, if it be exposed, a very delicate layer of cuticle is developed. The smooth shining surface of this cuticle gives the peculiar character of the scar, and one that scarcely changes, except in the alteration of apparent colour when the new material becomes less vascular.

The lymph effused in the healing by primary adhesion always, so far as I know, develops itself through nucleated cells, as the lymph of acute inflammation does; doubtless, the whole process is very similar to that of the adhesion of inflamed serous membranes.

It may be very quickly accomplished. Lately, a boy died eighty hours after receiving a lacerated wound of the abdomen; and, for forty-eight hours of these eighty, he was so manifestly dying, that I think no reparative process could have been going on. A portion of the edges of the wound was united with lymph, which presented well-marked cells, like those of granulations, and contained new-formed blood-vessels.

But it may be accomplished more quickly than in this case. If a small abscess be opened, and the edges of the opening are not gaping or inverted, they may be found united, except at the middle, within twenty-four hours. I have seen them so united with a distinct layer of soft, pinkish, new substance, in a wound made seventeen hours previously.

There are no cases in which the process of primary adhesion can be better observed than after operations for hare-lip. Possibly the inner portions of the wounds made in them may be healed by the immediate union, when the surfaces have been in exact coaptation; but the edges of the skin and mucous membrane seem always united by the adhesive inflammation, for a scar is always visible,—a scar formed by the lymph organised into cellular tissue and epithelium—a scar which, as well as any, shows how little of assimilative force can be exercised by adjacent tissues; for, narrow as it may be, it does not become quite like the adjacent skin, nor, like it, bear perfect epidermis and hair.

The history of union by primary adhesion cannot be conveniently completed till an account has been given of the healing by granulations and by secondary adhesion. Of these I will next speak: now I will only say of this union by primary adhesion, that it is less desirable than that of immediate union, because—1st, it is, probably, not generally so speedy; 2dly, it is not so close, and a scar is always formed by the organization of the new matter; and 3dly, the formation of lymph-cells is a process so indefinitely separated from that of the formation of pus-cells, that union by primary adhesion is much more likely to pass into suppuration than any process is in which no lymph is formed.

In describing the modes of healing by *granulations* and by *secondary adhesion*, I shall venture again to take my account from certain typical examples: such as cases in which, after amputation of the limbs, the surfaces of the wound are not united by either of the means already described, but, as the expression is, are "left to granulate;" or such cases as the removal of a breast, and subsequent suppuration of the flaps and the exposed fascia; or such as wounds into inflamed parts, when the edges gape wide asunder, and the spaces left between them are filled up with granulations. These may serve as examples of a process which although in all cases it may preserve certain general features of similarity, is yet in detail almost infinitely, and often so inexplicably diversified, that any more than a general account of it might fill volumes.

Granulations will generally arise on all wounded surfaces that are left open to the

ir and are not allowed to dry; they will do so whether this exposure be continued from the first infliction of the wound, or commence after the edges, which have been brought together, have been again forced asunder by the swelling of the deeper-seated parts, or by hæmorrhage, or secretion of fluid, between them. Exposure of a wound to the air is not prevented by any ordinary dressings: the air that is enclosed beneath them, or that can penetrate them, appears to be quite enough to determine all the difference of the events that follow open and subcutaneous injuries.

The simplest case for illustration is that of an open gaping wound, which, from the time of its infliction, is only covered, as in ordinary practice, with water dressing, or some soft and moist substance. Blood gradually ceasing to flow from the surface of such a wound, one may see still some blood-tinged serous-looking fluid oozing from it; and the material on the surface of the wound, examined with the microscope, will be found to contain an abundance of the white corpuscles of the blood, imbedded apparently in a fibrinous film. The existence of these corpuscles on the surface of the wound, especially on those of wounded muscles and fasciæ, appears to depend only on their peculiar adhesiveness. One sees them adhering much more firmly than ever the red corpuscles do to the walls of the capillary blood-vessels, and to the glass on which they are examined; and I should think we may thus explain their collecting on cut surfaces; while the other constituents of the blood flow away, the white corpuscles, and probably, also, some of the fibrine, quickly coagulating, adhere to the surface, which, in comparison with what they naturally flow over, is very rough, and therefore favourable to the quick coagulation and entangling of the fibrine.*

I am not aware of any facts that would prove what share the white corpuscles thus accumulated may take in the healing of a wound. They do not hinder it; for it is by many believed to be favourable to union by adhesion, to leave cut surfaces exposed till they appear glazed over with a whitish film, and then to put them into contact. This glazing consists of fibrine and white blood-corpuscles. It is probable the corpuscles are organised; but I know of no facts bearing on the point, and it is one which I think experiments on animals could hardly be made to illustrate.

But if a wound be still left open, this glazing remains on such parts as it may have formed on, especially on the exposed muscles. No evident change ensues in it, except that it appears to increase slowly, and makes the surface of the wound look as if covered with a thin greyish layer of buffy coat. This increase of glazing is the prelude of the formation of granulations; but while it is going on there is, in and about the wound, an appearance of complete inaction,—a sort of calm, in which scarcely anything appears except a slight oozing of serous fluid from the wound. The calm continues from one day to eight, ten, or more, according to the nature and extent of the wounded part, and the general condition of the body. In a cut or sawn hard bone, ten days at least will generally elapse before any change is manifest; in cancellous bone the change ensues a few days more speedily: on the under surface of a large flap of skin, with subcutaneous fat, three days may thus pass without change; on the cut or excoriated surface of the more vascular part of the skin, two days or three.

These periods of repose after severe injury are of equal interest in physiology and in surgery; but in the former it is only the interest of mystery. Observations on injuries of the frog's web* make it probable that the blood is stagnant for some little distance from the wound during several days after the injury: but why it is so, and what are the changes ensuing in and about it, preparatory to its again moving on, we cannot tell. The interest to the surgeon watching this period of repose is more practical: the calm may be the brooding time for either good or evil; whilst it lasts, the mode of union of the wound will, in many cases, be determined: the healing may be perfected, or a slow uncertain process of repair may be but just begun; and the mutual influence which the injury and the patient's constitution are to exercise on one another appears to be manifested more often at or near the end of this period than at any other time. Moreover, in general, the time at which, on each tissue, granulations are produced, is determined by this calm; for they begin to be distinctly formed at its end. Thus, on a stump, after a circular amputation, one may find the margin of the skin and the surface of the muscles well covered with granulations, while the surface of the fat reflected with the skin is barren of them, and the sawn walls of the bone are dry and bare. But from the sawn end of the medullary

* Reinhardt, by whom, I think, the fact was first clearly noticed (Traube's Beitrage, H. ii. p. 188), supposes the white corpuscles may exude separately from the vessels. Perhaps the truth is, that their peculiar adhesiveness makes them flow less readily from the bloodvessels, when the bleeding is about to stop; so that at last, when the vessels finally close and empty themselves, a large proportion of these corpuscles may issue from them and adhere to the cut surface over which they slowly roll.

* See especially those detailed by Mr. Travers in his Essay on Inflammation and the Healing Process.

tube there may already protrude a florid, mushroom-shaped mass of granulations, overhanging the adjacent walls: as if parts in which nutrition is habitually carried on under restraint within hard and rigid boundary-walls were peculiarly apt to produce abundant organizable material as soon as they are released.*

But suppose the period of calm after the violence of the injury to be well over-past—How does the right process of repair set in? Apparently, first of all, by the supply of blood to the injured part being increased.

The experiments on injuries made on the webs of frogs, to which I have already referred, have shown that immediately after the infliction of an injury, the blood in the adjacent parts remains for some days quite stagnant; and we may believe the same occurs, but for a shorter time, in our own case. During this stagnation, materials may ooze from the vessels enough to form the glazing of the wounded surfaces of certain parts; but before granulations can be formed, the flow of blood must again begin, and its supply must be increased by enlargement, and perhaps by multiplication, of the vessels in the injured part. Now, we cannot often see this increase so well in soft parts as in bone exposed after injury. If, in this condition, compact bone be closely watched, there may be seen, two or three days before the springing up of granulations, rosy points or minute blotches, which gradually deepen in their hue, and become larger. From these, presently, granulations will arise. The same process may be well seen when a portion of the skull has been exposed, as by suppuration under the pericranium. In such a case, which was under my care for a time last autumn, nearly one-third of the upper part of the skull was bared, and it became dry and yellowish, and looked quite lifeless; but after some days a few rosy points appeared on its surface, and these multiplied and enlarged, and from each of them granulations grew up till the whole surface of the skull was covered. We watched them nearly every day, and it was evident that, in all cases, an increased supply of blood preceded the production of the new material from which granulations were to be formed.

Doubtless just the same happens in soft parts as in bone; so that it may be stated generally that the first visible change that ensues after the period of calm,—the period of incubation, as it is called,—is an increased supply of blood to the parts in which repa is to ensue. This, probably, correspon exactly with the increased afflux of blo which ensues in inflammation; and M Travers' and other observations on the hea ing of the frog's web, make it nearly su that this increased afflux is attended wit slower movement of the blood, or at firs even with stagnation of the blood in the m nute vessels nearest to the cut edges o surface.

Of the force by which this increase afflux of blood is determined, I believe tha as yet no sufficient explanation can be ren dered; but the fact serves to show that th ordinary process of granulation is, in it commencement, morbid—beneficial, indeed in its end or purpose, but morbid in it method—comparable with the process o inflammation more than with any of thos that are natural to the body. The proces of granulating displays herein two points o resemblance to inflammation, and of dissi milarity from natural processes:—namely 1st, that the increased quantity of bloo moves more slowly than in health, while i the naturally increased supply its movemen is not retarded; and 2dly, that the increase supply precedes the increased production o material. For, in the discharge of natura functions, the increased supply of blood to a part appears always to be a secondary event the consequence of some increase in the formation of the part. As in the embryo many parts form themselves before blood appears—and the growth of these and othe parts always a little precedes the propor tionate supply of blood to them,—so always subsequently, the increase or diminution o growth, or any other organic act, appears to precede, by some small interval, the proportioned change in the supply of blood. But with unnatural and morbid processes it appears to be different: in these, with inflammation for their type and chief example, the increased afflux of blood precedes the increased production of material to be organized, and the decrease of blood precedes the decrease of organic processes.

That which next follows, after the increased afflux of blood, is the effusion of the material that is to be organised into granulations. This is added to the glazing that already exists upon some surfaces, and where none such exists, as on fat or bone, is accumulated on the bare surface of the wound. No account of this process of effusion, so far as it is visible to the naked eye, can be better than Mr. Hunter's (iii. 491). "I have often been able," he says, "to trace the growth and vascularity of this new substance. I have seen upon a sore a little white substance, exactly similar, in every visible respect, to coagulating lymph. I have not

* One may sometimes observe a similar fact in the growth of granulations out of the very centre of the cut end of a divided tendon, while its margins are unchanged. The abundant growth of substance, like brain covered with granulations, in cases of hernia cerebri, is of the same kind.

attempted to wipe it off, and the next day of dressing I have found this very substance vascular; for by wiping or touching it with a probe it has bled freely. I have observed the same appearance on a bone that was laid bare. I once scraped off some of the external surface of a bone of the foot, to see if the surface would granulate. I remarked, the following day, that the surface of the bone was covered with a whitish substance, having a tinge of blue: when I passed my probe into it I did not feel the bone bare, but only its resistance. I conceived this substance to be coagulating lymph thrown out by inflammation, and that it would be forced off when suppuration came on; but, on the succeeding day, I found it vascular and appearing like healthy granulations." To this, little can be added more than the microscope has shown. In the minute structure of granulations, or at least of such growths of new substance as present all the characters that we imply by that term,—the bright ruddy texture, the pointed and granulated free surface, the succulency and abundant supply of blood,—in these, we may discern two varieties, corresponding with the varieties of lymph that I have already spoken of. For, in subcutaneous injuries or diseases, granulations sometimes form which develope themselves into cellular tissue, through nucleated blastema; so I found in a case of simple fracture in which the ends of the bone remained long ununited: they were enclosed in a cavity formed by condensation of the surrounding tissues, but containing no pus, and were covered with a distinct layer of fluid granulations. It was just such a case as that which Mr. Hunter had in view, and preserved,* as an instance of the formation of granulations without suppuration, in the repair of subcutaneous fractures and other injuries.

But in by far the greater proportion of cases, granulations are only formed in exposed injuries: in these they consist of cells that may develope themselves into fibro-cellular tissue; and of such as these I will now exclusively speak.

Cells upon cells, such as I have already described, are heaped up together in a layer from half a line to a line thick, without apparent order, and connected by very little intermediate substance. Singly they are colourless; but in clusters they are ruddy, even independent of the bloodvessels. In granulations that are making healthy progress, one can especially trace that multiplication of nuclei of which I have already spoken. In the same, too, one can conveniently trace the cells in various stages, according to the position they occupy: the deeper-seated ones being always most advanced, and often much elongated, or nearly filamentous; while the superficial ones are still in a rudimental state, or near the edges of the granulating surface are acquiring the character of epithelium-cells. The cellular tissue thus constructed by the developement of the granulation-cells finally assumes all the characters of the natural examples of that tissue. Thus it is found in the layer of substance of which scars that are formed in the place of granulating wounds are composed. After some time, also, elastic tissue is mingled with the fibro-celullar; but this, as I have already said, appears to be effected by a later process. I found in one case no elastic tissue in scars that had existed, the one twelve months, the other eighteen months; but in scars several years old I have always found it.

The cuticle, also, that forms on granulations gradually approximates more nearly to the perfect characters, and, like the fibro-cellular tissue that it covers, presents the interesting fact of adaptation to the purposes of the part on which it is placed. Thus in granulating wounds or ulcers on the sole of the foot, one may often see that, from the first, the new cuticle is more opaque and thicker than it is on other parts, on which the natural cuticle, in adaptation to the protection required from it, is naturally thinner: and let it be observed that this peculiar formation of the new cuticle is in adaptation to conditions not yet entered upon. It justly excited the admiration of Albinus* when he saw in the fœtus, even long before birth, the cuticle of the heel and palm thicker than those of other parts,—adapted and designed to that greater friction and pressure to which in future time they would be exposed. It is the same when, in adult life, new cuticle is to be formed on the same parts: while it is forming, all pressure and all friction are kept away, yet is it constructed in adaptation to its future exposure to them. Surely such a provision is, beyond all refutation, an evidence of design; and surely in this fact we may discern another instance of the identity of the powers that are put in operation in the acts of first construction and of repair.

But before I end this lecture, let me add, that although one may so clearly trace, in the developement of granulation-cells, and in the end which they achieve by the formation of fibro-cellular tissue and cuticle, an imitation of the natural processes and purpose of the corresponding developements in the embryo, yet is there a remarkable con-

* College Museum, No. 16.

* Annotationes Academicæ.

trast between them, in regard to the degrees in which they are severally liable to defect or error. We can scarcely find examples of the arrests or errors of developement of mere structure in the embryo, but such events are quite common in the formation of granulations, as well as of all other new products. All the varieties in the aspect of granulating wounds and sores, which the practised eye can recognise as signs of deflection from the right way to healing, are so many instances of different diseases of the granulation-substance, — diseases not yet enough investigated, though of much interest in the study of both the healing process and the organization of new products in inflammation. A comparatively few observations enable one to trace morbid conditions of these new structures closely answering to those long known in the older and more perfect tissues. Thus, one may find simply arrested developement of granulations; as in the indolent healing of wounds and ulcers, whether from locally or generally defective conditions. Herein even years may pass, and the cells will not develope themselves beyond one or other of their lower forms. There is probably a continual nutrition of particles among such cells, as in common nutrition,—or they may increase, as in growth; but no developement ensues, and the wound or the ulcer remains unhealed.

In other cases, the cells not only do not develope themselves, but they degenerate, becoming more granular, losing the well-marked characters of their nucleus, and acquiring all the structures of the pus-cell; thus are they found in the walls of fistulæ and sinuses. Or, worse than this, the granulation-cells may lose all structure, and degenerate into a mere layer of débris and molecular substance. Thus they may be found on the surface of a wound for a day or so before death in exhaustion, or in erysipelas, or fever. With more active disease granulations become turgid with blood, or œdematous: such are the spongy masses that protrude beyond the openings leading to diseased bone; or they inflame, and abundant large inflammatory granule-cells are found among their proper structures; or they suppurate internally, and purulent infiltration pervades their whole mass.

All these are among the many hindrances to healing: these are the dangers to which the healing by granulations is obnoxious: it is the proneness to these things that makes it even slower and more insecure than, in its proper course, it might be. But to these I must again refer when I speak of the formation of pus, and the relation of its cells to those of granulations.

Reviews.

On the Cryptogamous Origin of Malarious and Epidemic Fevers. By J. K. Mitchell, A.M., M.D., Professor of Practical Medicine in the Jeaffreson Medical College of Philadelphia. Small 8vo. pp. 137. Philadelphia: Lea and Blanchard. 1849.

The quotation which the author has placed as one of his mottoes on the title page of this work, expresses with some modification the result of our careful perusal of the work itself. "It has also happened that reflecting men, guided by general ideas and (*loose*) analyses, have (*sometimes*) enunciated truths (*crude hypotheses?*) which only at some future period (*if ever*) could command general (*or partial*) acceptance and acknowledgment. This has always happened, and always will happen, when (*as in the case before us*) the direct proofs of such a truth are wanting."

The parenthetical words inserted in the preceding extract, are our own, and are intended to indicate the value we are compelled to attach to this self-styled *theory* of the causes of Malarious and Epidemic Fevers.

Dr. Cowdell has already endeavoured, we think unsuccessfully, to explain the spread of cholera by a similar hypothesis. Although Dr. Mitchell has evinced a great amount of research, and has collected much matter of medical and collateral interest, he has failed to establish the evidence of a relation beyond that of the barest analogy, between the facts he narrates in the natural history of the fungi, and that all-important point in the natural history of diseases, *i. e.* their spread in an epidemic or infectious form. Facts, for instance, have been indisputably proved which establish that fever, cholera, and other diseases, spread among the inhabitants of a city, town, or district, where they have once made their appearance therein: we leave out of consideration for the present the question of introduction. Will the failure of previous hypotheses to explain this fact, establish the theoretical truth of the cryptogamous hypothesis? Are there not subtle material agencies to which the body is constantly exposed? Is there any identity between

the alleged production of sporadic instances of disease *after* the known injection of fungous substances, and the rapid spread of a pestilential disease from individual to individual, in circumstances the most diverse, and where the presence of fungi is the purest assumption? Is there the remotest resemblance between malarious disease and certain cutaneous and other diseases, *in the course of which* cryptogamous vegetations are said to be found, *e. g.* between favus and yellow fever?

What deductions can be legitimately drawn from the marvellous narrations, by mediæval writers, of the sudden appearance of spots of blood, crosses, &c. &c., on garments, furniture, &c., during epidemic visitations? Has the spread of cholera been conformable to the season of greatest protophytic activity? How can the limitation to the spread of infectious disease by walls, streets, roads, screens of trees, &c. be reconciled with the distribution of bodies of such extraordinary minuteness and lightness, as the sporules of fungi? How can the prevalence of a universal and identical cause be justly urged in countries possessing diametrically opposed meteorological, climatorial, and geological conditions?

We might extend our analysis of the several positions which are assumed by the advocates of the cryptogamous hypothesis; but the preceding contains the principal points which the author of this essay has dwelt upon, and we believe our readers, if they take the trouble to consult Dr. Mitchell's treatise, will concur with us in opinion, that this hypothesis is entirely destitute of proof.

SUBSIDENCE OF THE CHOLERA IN PARIS. The cases and deaths from cholera have greatly decreased in the hospitals: the daily average of cases is 28, and of the deaths 15; in the city the daily mortality is 25. During a period of ten days, *i. e.* from June 22nd to July 1st, the admissions into the hospitals were 374, and the deaths 239. The deaths from cholera since its outbreak in March up to July 1st, were—

In the hospitals . .	6444
In the city	8633
Total	15077

The cases in the hospitals alone were 12434: thus showing a mortality of more than fifty per cent.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 12, 1849.

Dr. Addison, President.

On Tumors of the Mammary Gland. By John Birkett, Assistant-Surgeon to Guy's Hospital.

The author commenced his paper by introducing extracts from the works of various authors who have written on tumors of the breast during the last thirty years. He then proceeds to relate cases illustrative of the general characters and structural anatomy of the morbid productions, or new growths, to which it was his especial object to direct attention. They are characterized by a remarkably lobulated exterior, and a succulent, glistening aspect on section. They consist of a large quantity of uniting, or areolar tissue, and present, when carefully examined by the aid of the microscope, the cæcal terminations of gland tissue. Nucleated bodies are found in these hypertrophic growths, but these are merely embryonic elements, possessed in common by all new growths. The origin of these growths the author considers due to excess of nutrition; they resemble the healthy gland structure, but have no lactiferous tubes. They usually occur before the age of thirty, and are more frequent in the unmarried than in the married; the function of the mammary gland is generally unimpaired. Their more ordinary position is on the surface of the gland, and they may attain to a very large size, their existence not being necessarily accompanied by pain. The hypertrophic growths under consideration are harmless, but usually not amenable to general remedies, or any local treatment short of excision. The author concluded his paper by some remarks on hypertrophic growths generally of the breast, dividing them into perfect and imperfect hypertrophy. The former most commonly occurs about the age of puberty, and consists in great increase in size of the breast, from a continued development of true gland tissue. The latter, or imperfect hypertrophy, he subdivides into lobular, general, and cystic. The first is that which has been alluded to already. In the second, the true gland is atrophied by the encroachment of the new growth, so as to be no longer recognisable. The cystic form is regarded by the author as imperfect gland tissue, (hydatid disease of Cooper; cystosarcoma of Müller). He proposes reserving the consideration of this question for a future opportunity.

Mr. Cæsar Hawkins did not think the

author of the paper was correct in his nomenclature of the disease described, and which he had designated "lobular hypertrophy." Hypertrophy was increased growth of the natural structure, but the author had asserted that these growths were new and isolated in their formation, and could be turned out entire. They could not, therefore, be any more denominated hypertrophy than could a fatty tumor. We knew that there were two kinds of fatty tumor, one a mere increase of deposits in the fatty cells themselves, the other isolated tumors similar to those described in the paper. There was some addition to what we knew of these tumors made by the author, such as their containing epithelial cells and imperfect ducts, but still the old name was as correct as the proposed new one. Mr. Hawkins then referred to a paper by Mr. Lawrence, contained in a volume of the Society's *Transactions*, on tumors situated near the lacrymal duct, and, from proximity to that organ, partaking much of the same structure; so, in the tumors described, they had the appearance of the gland in which, or near which, they were situated. So growths near the bone assumed a bony structure, or, near fat, a fatty one. He then referred to some lectures of his own, in which he had called these tumors "conglomerate," not being of the neighbouring structure, or connected with it, except by contiguity.

Mr. Birkett said that some obscurity hung about his paper, from the former part of it not having been read. Authors had given most indefinite names to these tumors. He agreed with Mr. Hawkins as to their nature, but differed in regard to their connexions. He had seen no tumor which was not connected with the mammary gland, though it might be surrounded by dense fibro-cellular tissue, the result of the pressure of the tumor. They were as much hypertrophy of the gland as epulis was hypertrophy of the gum tissue, &c.

Case of Popliteal Aneurism. By J. D. Wright, Surgeon-Major, Grenadier Guards.

This case derives its interest from the fact of a favourable termination having followed the application of a ligature on the femoral artery after the aneurismal sac was ruptured, compression having previously failed in effecting its obliteration. The patient was aged 37. Six days prior to his admission into the hospital he had become aware of a popliteal swelling, to which his attention was directed by pain in the knee. The tumor, on examination, was found to be as large as an orange, and presented all the characteristics of true aneurism. He was bled, and the pad of an Italian tourniquet applied over the femoral artery, just before it enters Hunter's canal. Effectual pressure could not be borne continuously; but the limb gradually became accustomed to partial interruption of the flow of blood through the artery, and the tumor became smaller and more solid. On the eighth day, however, the sac burst whilst the patient was at rest, and it was deemed advisable to tie the femoral artery, which was done after the lapse of only three hours. The ligature separated on the twenty-sixth day, and the wound healed kindly. A twelvemonth has since elapsed: the man is well, and the tumor is reduced two-thirds of its volume.

Mr. Charles Hawkins mentioned a case of popliteal aneurism successfully treated by pressure. The patient was ninety years of age, and under the care of Sir B. Brodie. He had been the subject of various maladies, and seven or eight months before death a pulsating tumor presented itself in the ham. There was no trace of any other disease in the vascular system. A piece of amadon plaster was placed over the swelling, and kept in position with a bandage. All pulsation ceased in four or five months. He died of other diseases. All the usual appearances of a cured aneurism were found after death.

Cases illustrating a peculiar variety of Closed Pupil. By P. C. Delagarde, Surgeon of the Devon and Exeter Hospital, and of the West of England Eye Infirmary.

The form of closed pupil referred to by the author is characterized by the existence of dark-brown pellicles, extending from the iris to the capsule of the lens, the consequence of inflammation of the former texture, and conjectured by him to be portions of the uvea retained at their point of adhesion, and partially detached from the retracted iris: these pellicles may cross one another, occupy the pupil, and close its aperture. The author cites three illustrative cases, and details their treatment. In the first, which occurred in a man of fifty-four, the crystalline and its capsule had been previously removed, and the dark elongations of the uvea filled the whole area of the pupil. The iris and obstructing uvea were divided transversely, by introducing a sharp-pointed iris knife through the sclerotic, behind the ciliary body, and the cure was permanent. In the second case, dark matted bands of uvea concealed the crystalline lens, and adhered to its capsule. The patient, a female of fifty-three, had been the subject of syphilitic iritis six years before, which attack terminated in loss of vision. The crystalline lens of the right eye (being opaque) was first dispersed, and the capsule torn up, and the pupil cleared of uvea in four operations, the needle being introduced

twice in front of, and twice behind, the iris. Belladonna was afterwards freely employed. A similar operation was twice repeated on the left eye, after which she suffered from rheumatic iritis, resulting from imprudent exposure, which was followed by hypopion, and the pupil was permanently closed. Some months after this the perception of light was strong, but the author did not recommend the division of the iris, as the new pupil could not have corresponded with its fellow; she has now sight sufficient to follow her household duties. The third case occurred in a wayward boy of fourteen; opacity of the cornea, and attachment of the iris to it, constituting a further complication: the sight had been lost some years before by severe inflammation, and an ulcer had penetrated the cornea of the left eye five years later. This ulcer existed at the date of his admission, and the pupil was occupied with a broad film of very dark uvea; the lens was opaque, but pale. Keratonyxis was twice performed, the capsule of the lens being opened, and the uvea freely divided. The capsule was subsequently detached from the iris, after three or four attempts, the boy's resistance rendering the operations through the sclerotic very difficult. The pupil subsequently expanded freely. The needle was subsequently introduced three times through the cornea, to cut off a large conjunctival vessel, and detach the lower edge of the pupil from the back of the cornea, at the seat of the perforating ulcer. A satisfactory result followed, the lad having sight sufficient for all common purposes.

Mr. Dixon remarked that the author had called his cases a "peculiar" form of obstructed pupil, treated by a "peculiar" operation. Now the obstruction was the common one, and the operation that commonly resorted to.

MEDICAL SOCIETY OF LONDON.

Monday, May 28th, 1849.

Mr. Hancock, President.

Dr. Theophilus Thompson, in reference to the discussion at the last meeting of the Society, respecting the increase of the specific gravity of the urine when lemon-juice was given with advantage in rheumatism, said, that on inquiry amongst his friends, he had found that no such increase in the specific gravity had taken place in some cases. Sometimes there was an increase to a certain extent; but even this was not constantly noticed in the cases treated in Guy's Hospital.

Mr. W. F. Barlow read a paper on

Volition as an excitor and modifier of the Respiratory Movements.

He observed that it was important as a practical subject. The question of respiration was extremely complex, and it must be considered accordingly. The respiration during sleep and wakefulness presented a great contrast. To illustrate the effect of the mind upon this function, the author cited a very eloquent passage from the work of Sir Charles Bell, depicting the influence of emotion on the respiratory movements. Then, proceeding more immediately to his subject, he dwelt upon the information which a person might derive respecting the power of his will over the breathing motions, by the examination of himself. He thought it useless to attempt a definition of the will. We were ignorant how it acted on the body, as Sir John Herschel had admirably stated; we must observe for ourselves, and make, moreover, observations upon ourselves, if we would comprehend what it accomplishes, as Locke had long ago remarked. To show that a person might become for a while the sole excitor of his respiration, Mr. Barlow instanced the case of Hunter, as related by himself, in which, when involuntary respiration stopped, that physiologist, thinking he might die in consequence, purposely dilated his chest by the power of his will. He then cited the remarkable instance of Dr. Bateman, who, when affected by erethismus mercurialis, was obliged to be aroused frequently, lest sleep should be fatal to him. This was because volition was necessary to assist his breathing. Mr. Barlow dwelt upon the various and obvious modes in which the respiration was modified in acute diseases of the chest. The state of the will, and the energy with which it was exerted, had no little concern, sometimes, with the issue. There was much more to be considered in reference to dissolution, than could be learnt from the traces of disease. One person lived under an amount of physical disorganization which would have killed another. The voluntary exercise of respiration in certain pulmonary diseases was a very important topic for inquiry. The "Medical Notes and Reflections" of Dr. Holland contained an essay on this question, the suggestions wherein, as Mr. Barlow thought, might be carried much farther than appeared at first. Not only in pulmonary diseases, but in other diseases which very frequently involved the lungs, the state of the respiration required the closest watching, and especially if sensation and the will were abolished, or nearly so. In typhus fever the respiration was wont often to be very imperfectly performed, the blood to be partially oxygenated only, and the greatest mischief was the consequence. The author had found much benefit result by exciting forced inspirations from time to time, by the application of cold to the face and chest. When patients slept after seeming recovering from asphyxia, it was

incumbent on the practitioner most carefully to watch the breathing. Then one excitor of respiration was withdrawn—the will. The patient might relapse, and cease breathing altogether for want of the timely excitement of involuntary respiration. The author instanced atelectasis, of which affection he sketched an outline, as an excellent example of the dependence of the healthy state of the lung on the vigour of the respiratory movements, and referred to an interesting example of it which he himself had lately witnessed. It happened in a girl of eleven, who died of pericarditis. The lungs on inflation resumed their proper colour, texture, and weight. What was the remedy for this affection? Clearly the excitement of involuntary inspiration, repeated again and again. The remarks were concluded by a reference to that all but exclusively voluntary breathing which was maintained after the division of the vagi nerves. The animal became tired of exertion, the will acted more and more faintly, the blood became less and less oxygenated, and in the end asphyxia was completed. The author related an experiment which he had performed; the results, so far as the affection of the breathing was concerned, were just those described by Legallois. He quite agreed with that distinguished physiologist, Dr. Marshall Hall, in his view of the pneumogastric being the ordinary excitor nerve of respiration, and in what he had said respecting the voluntary breathing when that nerve was divided. He (Mr. Barlow) considered that the state of lung found in animals who died after this experiment resembled that of atelectasis.

The Society adjourned until the last Monday in September.

SOUTH LONDON MEDICAL SOCIETY.

May 24th, 1849.

JOHN HILTON, ESQ., F.R.S. PRESIDENT, in the Chair.

The Sequelæ of Scarlatina.

MR. SWETE read a paper containing a series of cases of scarlatina. Most of the cases were mild, with very little rash, and soon got well. Two cases, attended with low muttering delirium, convulsions, and coma, recovered, after being placed for ten minutes in a warm bath, with flower of mustard and sinapisms to the extremities. All the cases of head affection, with the exception of one, showed traces of albumen in the urine. The author wished particularly to gain some information as to the pathology of the disease, its mode of affecting the system being so various and diversified.

Mr. BABBAGE inquired whether mump followed scarlatina?

Mr. SWETE had seen mumps preceding and following scarlatina.

Mr. TAYLOR.—Six years since, when scarlatina was prevalent, he took notes of several cases where anasarca followed scarlatina in most, if not all these cases, the primary symptoms were mild. In some cases the anasarca was acute, and in others mild, and of a chronic character: the albuminous urine continuing for several months, even after the subsidence of the dropsical symptoms. In some, there was a tendency to head affections and inflammation of various organs, showing, as he thought, that the disease had an inflammatory character.

Mr. HICKS was fully aware that anasarca was usually considered to have an inflammatory origin; but in the anasarca of this season, he found it yield, not to depletory measures, but to ammonia and other stimulants followed by a chalybeate.

Dr. HUGHES said, it is several years since I stated the fact now acknowledged, that it is in the milder forms of scarlatina, we have usually anasarca, the effect of exposure to cold. The parents brought children to the hospital swollen all over, and at first the previous scarlatina was denied; but on close inquiry it came out that the child had sore-throat, and sometimes an eruption. The cause of anasarca he believed to be a suppressed action of the skin the consequence of exposure to cold; congestion of the kidneys supervened—perhaps it might be called an inflammatory action, for there was occasionally a passive hæmorrhage from these organs. All Mr Swete's cases were mild, and he thought that in all the anasarca cases the urine, if examined, would have been found albuminous. He considered it singular that the head affections should come on and no albumen in the urine; and he also thought that in an institution, such as Mr. Swete had the care of it would not have been difficult to have prevented the convulsions, by attending to the skin. It is more important to take care of the skin after a mild than after a severe attack of scarlatina; for in the latter the parents keep the child in the house. Mr. Hicks has asked, is the disease from an inflammatory or debilitating cause? It is not necessarily either: it may be inflammation of a low type, so as to be fatal in twenty-four hours. In most cases children are cured by antiphlogistic means. It was essential to order a flannel dress, and the occasional use of the warm bath. He had never seen the kidney of a child who actually died of the disease. In one case where the child died after many months, the kidney was white and creamy: he did not think this singular for the function of the kidney may be dis-

turbed just as that of the skin. In the advanced stages he had seen benefit from a stimulant, especially the Tr. Fer. Sesquichlor.

Dr. P. Murphy was pleased to find that his own opinions so entirely coincided with those of Dr. Hughes, but he thought that the kidney was merely the organ for removing the albumen of the secreted fluid, and was neither disordered in function or deranged in structure.

MANCHESTER PATHOLOGICAL SOCIETY.

Rheumatism—fatal Pericarditis.

Dr. Watts presented the heart of a man who died on the twenty-first day from the onset of a severe attack of rheumatic fever, which was complicated with pericarditis and delirium.

The heart was of the proper size, and presented no traces of chronic disease. The lining membrane of the left auricle and the mitral valve were opaque, white, and slightly thickened; but the valve was not diminished in size, nor puckered, nodulated, or indurated, and the slight thickening of its substance did not take from its suppleness or lessen its efficiency. The outer surface of the heart was coated over by a layer of recent organised lymph, presenting a rough honeycomb appearance. This lymph was a quarter of an inch thick in places. The pericardial sac—rough all over with lymph—was tensely filled with not less than a pint of red serum. No unquestionable morbid appearance was seen in any other organ, but something of doubtful nature in the arachnoid. The brain was healthy: its vascular system was not congested; the arachnoid was quite transparent, and separated easily from the surface of the convolutions; and with the exception of a little whiteness, which was visible here and there over the course of the larger vessels of the pia mater, there was nothing in the brain or its membranes worth remark.

The deceased, an athletic labourer, aged 28 years, was seized on the 4th of April, 1849, with acute rheumatism, attended with much sweating, very copious eruption of miliary vesicles on the skin, and intense inflammatory fever. The nitre treatment, aided by opium, was resorted to, with apparent success, until the 12th of April, the eighth day of the rheumatism; then pain fixed in the heart region, and the patient complained of anxiety in the præcordia, and some constraint in breathing, and loud friction-murmur at the same time, became audible along the sternum and over the site of the heart. The calomel and opium treatment, aided by cupping, was substituted for the previous remedies, but by mischance the cupping was not executed till the following evening, the ninth day of the rheumatism, the second day of the pericarditis. During the evening of Saturday, the 13th of April, he was admitted into hospital, and there was an interruption in the application of remedies until the Monday, the twelfth day of the rheumatism, the fourth day of the pericarditis. He then came under the care of Dr. Watts, and most active measures were taken with the view to check the inflammation. The cupping was repeated over the heart, and a blister was immediately afterwards applied to the chest. It was directed that the chest and belly, and the armpits and groins, should be anointed freely, *ad libitum*, with strong mercurial ointment, until salivation supervened, and the same application was ordered as dressing for the blistered surface. Calomel and opium a grain each, and ipecacuanha quarter of a grain, were given in pill every four hours, and a solution of five grains of nitre every two hours. The suffering breast was quickly relieved by the cupping, and the rheumatic pain was forthwith subdued by the remedies. On the morrow he had no pain, but the nurse reported he had shown slight evidence of delirium in the night. The cupping was repeated a third time, without further advantage: the heart's inflammation proceeded unchecked, and the symptoms of wandering mind were still in attendance, especially at night. After persevering use of the remedies, salivation was not effected: there were repeated indications of only abortive ptyalism, which always disappeared. On the 23d of April, the nineteenth day of the rheumatism, the eleventh day of the pericarditis, a combination of mercurials was prescribed, as follows:—Calomel, Hyd. c. Cretâ, Pil. Hyd., each a grain, to be taken with one grain of opium every three hours. On the morning of the 25th of April, the twenty-first day of the rheumatism, the thirteenth day of the pericarditis, a blister was again applied to the chest, but the inflammatory disease never gave way; salivation did not supervene, notwithstanding the mercury did not purge, and the sufferer died suddenly, as if choked, the same afternoon. During the whole of the period from the 16th to the 25th of April, the pulse never exceeded 118 beats, and never numbered less than 104 beats, in the minute: it ranged as follows:—April 16th, 112; 17th, 110; 18th, 112; 19th, 104; 20th, 118; 21st, 112; 22d, 104; 23d, 112; 24th, 107; 25th, 116.

Dr. Watts drew attention to the failure of the attempt to effect salivation in this patient, notwithstanding the comparatively

small extent of the inflammation, and expressed his inability to account satisfactorily for such unlimited tolerance of mercury. The only suggestion he was disposed to offer he put in the form of query—Did the rheumatic and inflammatory changes in the blood itself preponderate greatly over the local inflammation? and had the morbid changes of the organic elements of the blood proceeded so far as *per se* not only to countervail the mercurial action, but also to serve even to destroy life? He was the more inclined to this view, because he had so often seen the full action of mercury established, without difficulty, where the inflammation was incomparably more extensive; and there was no discernible peculiarity in the constitution of the deceased to explain why the mercury was here inert. The practical conclusion derivable from the history of this case, exemplifying disease so eminently inflammatory, he left for others to draw for themselves.

The wandering state of the mind, as connected with the pericarditis, appeared to him an interesting point in this case, especially when considered in relation to the post-mortem appearances. Though the brain was sound, and rather less rich in lieu of being richer in blood than ordinary; and notwithstanding the arachnoid was so transparent, and generally so clear, and the membranes on the whole so perfect,—still he dared not say positively that the delirium was merely sympathetic to the heart disease here, and wholly independent of rheumatic irritation of the arachnoid. Traces of whiteness, though ever so slight, were distinguishable in the arachnoid as described over the course of some large blood-vessels; and when it is considered that the white spot or opacity is not seldom the sole mark of rheumatic, inflammatory, and some other substantial changes of serous membranes, the possibility of the origin of the delirium from this source will be manifest. He was not prepared to affirm that it certainly arose from irritation of the arachnoid in this instance; but, were he to meet with similar appearances after death in a series of the like cases, his opinion would be decided to that effect. For the present, the case seemed to cast a doubt on the generally received opinion as to the sympathetic character of the mental disturbance in certain cases of rheumatic pericarditis, and it appeared to lay open this point of pathology to fresh investigation.

Fatal Hæmorrhage from the Bowels, secondary to Scald.

Dr. Renaud presented for Mr. Stephens a portion of the ileum of a little girl who had received a severe scald in the legs seven days before her death, which event happened through hæmorrhage by metastasis from the intestinal canal. The lower two-thirds of the ileum was in a state of great congestion, and of a port-wine colour, with small ecchymosed spots scattered over the surface at distances of about half an inch the one from the other. In the cavity of the bowels there was about a pint of blood, grumous-looking and uncoagulated. When macerated, these spots resembled little vesicles, about as large as millet seeds, and from these points the bleeding had probably proceeded. The body was pale, and looked blanched from loss of blood. For one week the scald looked well, and was suppurating kindly; the little child also preserved her health. Twelve hours before death there were noticed languor and pallidity: the scalded surface became pale, and shortly afterwards about a pint of uncoagulated blood was passed through the rectum. In about another six hours the child died, and the bleeding was found to have continued internally as described above. The nature of the hæmorrhage was remarked on, as resembling those passive grumous discharges that sometimes accompany continued and remittent fevers; and the seat of the hæmorrhage so low down in the small intestines was also noticed as somewhat uncommon in burns and scalds. The stomach and duodenum were both healthy-looking.

Bright's Disease—Pericarditis.

Mr. Farr exhibited the kidneys and heart of a man who died dropsical. The kidneys were in an advanced stage of Bright's disease. The heart was hypertrophied, and the pericardial sac was extensively adherent by recently organized lymph. There were pleuritic adhesions on the left side, with serous effusion to considerable extent. The brain was healthy: the arachnoid contained about two ounces of serum.

The patient, a weaver, aged 24 years, was brought into the workhouse fifteen days before death, complaining of dyspnœa and palpitation of the heart: he was anasarcous from head to foot, and there were clear evidence of hydrothorax. The urine was highly albuminous. He stated that his illness began three months previously with violent pain in the head and swelling in different parts of the body, and that three years ago he experienced a similar attack, which subsided under mercurial treatment. Fifteen days before death he was attacked with convulsions in the night; three days later the eyesight failed, and he became somewhat delirious. The next day the mercurial action was manifest in the mouth; simultaneously the eye-sight returned, and so remained until death.

Correspondence.

THE WEATHER AND THE LEECH.

Sir,—In Hayley's Life of Cowper, we find a letter addressed to Lady Hesketh, in which the poet acquaints her ladyship with this interesting fact at the close of the epistle. "Yesterday it thundered, last night it lightened, and at three this morning I saw the sky as red as a city in flames could have made it. I have a leech in a bottle that foretels all these prodigies and convulsions of nature. No, not as you will naturally conjecture, by articular utterance of oracular notices, but by a variety of gesticulations, which here I have not room to give an account of. Suffice it to say, that no change of the weather surprises him, and in point of the earliest and most accurate intelligence, he is worth all the barometers in the world. None of them all, indeed, can make the least pretence to foretel thunder—a species of capacity of which he has given the most unequivocal evidence."

Taking these few remarks as my text, you will find the following observations accurate, and if you deem them worthy of a place in your journal, I shall be obliged to you to have them inserted :—

1st. If the weather proves serene and beautiful, the leech lies motionless at the bottom of the glass, rolled together in a spiral form.

2nd. If it rains either before or after noon, it is found crept up to the top of its lodging, and there remains until the weather is settled.

3rd. If we are to have wind, the poor prisoner gallops through its limpid habitation with amazing swiftness, and seldom rests till it begins to blow hard.

4th. If a remarkable storm of thunder and rain is to succeed, for some days before it lodges almost continually without water, and discovers uncommon uneasiness in violent throes, and convulsive-like motions.

5th. In the frost, as in the clear summer weather, it lies constantly at the bottom; and in snow, as in rainy weather, it pitches its dwelling upon the mouth of the phial.

6th. Perhaps it may not be amiss to note, lest any of the curious should try the experiment, that the leech was kept in a common two ounce phial about three-fourths filled with water, and covered with a bit of linen rag. In the summer the water is changed once a week, and in the winter once a fortnight. This is a weather glass which may be purchased at a very trifling expense.

These observations have been hitherto confined to the weather: it has occurred to me, however, that epidemics, cholera, influenza, fevers, may be preindicated by the instincts of this curiously sensitive creature; and I am now arranging a series of experiments which will test the powers of my intelligent friend in so desirable a prognosis. I do not pretend to offer any theory or explanation of the curious facts above stated; I only cast them upon the waters in the hope that some naturalist, with more leisure and ingenuity than myself, will perhaps, after many days, enlarge and apply them to some beneficial purpose; one suggestion only will I offer in explanation — Is it the electrical condition of the atmosphere that produces these curious habits in the leech?

I am, sir,
Your obedient servant,
Wm. Hooper Attree,
Formerly House-surgeon to the Middlesex Hospital.

9, New Cavendish Street,
June 27th, 1849.

Medical Intelligence.

THE CHOLERA AT LIVERPOOL.

The following is a return of the cases of cholera reported to the medical officer of the borough, Dr. Duncan, by the district medical officers employed by the select vestry, since Friday, June 22.

	Cases.	Deaths.	Recovering
Friday . .	35	12	15
Saturday .	30	15	7
Sunday . .	32	15	20
Monday . .	33	11	11
Tuesday . .	51	14	18
Total . .	181	67	71

THE HARVEIAN ORATION.

On Saturday last, the Harveian Oration was delivered at the Royal College of Physicians by Dr. Baddeley, in the presence of a large assembly, after which nearly 100 sat down to a splendid dinner in the large dining room of the College. The oration, which lasted forty minutes, was much admired for its elegant Latinity, as well as for the liberal sentiments which pervaded it, and was much applauded throughout; being clearly and audibly delivered it was heard by every one present. It comprised the usual commemoration of the benefactors and ornaments of the profession, and suggested means of increasing the utility of the institution, and afterwards advocated throwing its doors more open to those physicians whose attainments and skill merit promotion, instead of confining the Fellowship to Graduates of Oxford and Cambridge, as formerly. Amongst the company present were Lord Carlisle, Lord

Rosse, P.R.S., Lord Langdale the Master of the Rolls, the Lord Chief Baron, Barons Alderson and Parke, Mr. Justice Patteson, Mr. Justice Cresswell, the Dean of Westminster, Sir H. Halford, M.P., Sir B. Brodie, Sir C. Clarke, Sir C. Forbes, Mr. Hallam, in addition to Dr. Paris (the President) and most of the eminent members of the faculty. The grand library, in which the oration was delivered, was elegantly adorned with flowers, and the rostrum embosomed in laurel.

THE NEW CURRICULUM OF THE APOTHECARIES' SOCIETY, 1849.

EVERY Candidate for a Certificate of Qualification to practise as an Apothecary will be required to produce Testimonials—

1. Of having served an apprenticeship of not less than five years to an apothecary:

No gentleman practising as an apothecary in England or Wales can give his apprentice a legal title to examination, unless he is himself legally qualified to practise as an apothecary, either by having been in practice prior to or on the 1st of August, 1815, or by having received a certificate of his qualification from the Court of Examiners. An apprenticeship for not less than five years to surgeons practising as apothecaries in Ireland and Scotland, gives to the apprentice a title to be admitted to examination.

2. Of having attained the full age of twenty-one years:

As evidence of age, a copy of the baptismal register will be required in every case where it can possibly be procured.

3. Of good moral conduct:

A testimonial of moral character from the gentleman to whom the candidate has been an apprentice, will always be more satisfactory than from any other person.

4. And of having pursued a course of medical study in conformity with the regulations of the Court.

Course of Study.

Every candidate whose attendance on Lectures shall commence on or after the 1st of October, 1849, must attend the following Lectures and Medical Practice during not less than three winter and two summer sessions; each winter session to consist of not less than six months, and to commence not sooner than the 1st nor later than the 15th of October; and each summer session to extend from the 1st of May to the 31st of July.

First Year.

Winter Session.—Chemistry — Anatomy and Physiology — Anatomical Demonstrations.

Summer Session.—Materia Medica and Therapeutics—Botany and Vegetable Physiology—Midwifery, and Diseases of Women and Children.

Second Year.

Winter Session.—Anatomy and Physiology—Anatomical Demonstrations—Dissections—Principles and Practice of Medicine—Medical Practice.*

Summer Session.—Medical Practice*—Midwifery, and Diseases of Women and Children — Forensic Medicine — Practical Chemistry†— Morbid Anatomy — Clinical Medicine.

Third Year.

Winter Session.— Dissections — Principles and Practice of Medicine — Medical Practice*—Morbid Anatomy and Clinical Medicine.

Practical Midwifery, at any time after the conclusion of the first course of Midwifery Lectures.

The above course of study may be extended over a longer period than three winter and two summer sessions, provided the Lectures and Medical Practice are attended in the order prescribed.

Recognition of Lecturers and Schools.

No Member of the Court of Examiners will be recognised as a lecturer on any branch of medical science.

No lecturer will be recognised by the Court who is not connected with a recognised medical school, or who teaches on more than two branches of medical science; nor until he has produced very satisfactory testimonials of his attainments in the science he purposes to teach, and of his ability as a teacher thereof, from at least two persons of acknowledged talents and distinguished acquirements in the particular branch of science in question; and also given a public course of lectures on the subject he purposes to teach; but if, after such preliminary course, the lecturer shall be recognised, certificates of attendance on that course will be received.

Satisfactory assurance must also be given that the teacher is in possession of the means requisite for the full illustration of his lectures, viz. that he has, if lecturing—

On Chemistry, a laboratory and competent apparatus:

On Materia Medica, a museum sufficiently extensive:

On Botany, a hortus siccus, plates or drawings, and recent plants:

On Midwifery, a museum, and such appointment in a public institution as may

* Medical Practice must be attended during the full term of eighteen months; twelve months at a recognised hospital, and six months either at a recognised hospital or dispensary.

† By Practical Chemistry is intended a *specific* course of instruction in the Laboratory, with an opportunity of personal manipulation in the ordinary processes of chemistry, and of acquiring a knowledge of the various re-agents for poisons

afford the means of practical instruction to the pupils.

Lectures on Anatomy, and Physiology, and Anatomical Demonstrations, must be in conformity with the regulations of the Royal College of Surgeons.

The Lecturer on the Principles and Practice of Medicine, if he lectures in London, must be a member of the Royal College of Physicians of London; and if in a provincial town, either a member of the Royal College of Physicians of London, or a graduated Doctor of Medicine of a British University of four years' standing, unless prior to his graduation he had been for four years a Licentiate of this Court.

The Lecturer on Materia Medica and Therapeutics must be a member of the Royal College of Physicians, or a graduated Doctor of Medicine of a British University of four years' standing; or he must have been a Licentiate of this Conrt for the same period.

The Lecturer on Midwifery must be a member of one of the legally constituted Colleges of Physicians or Surgeons in the United Kingdom, of four years' standing, or he must have been a Licentiate of this Court for the same period.

The names of the lecturers recognised by the Court may be known on application to the secretary, at the Hall of the Society.

The certificates of teachers recognised by the constituted medical authorities in Dublin, Edinburgh, Glasgow, and Aberdeen, as also those of the medical professors in Foreign Universities, are received by the Court.

Much inconvenience having arisen from the presentation of schedules signed by lecturers unknown to the Court, it is particularly requested that the registrars of the medical schools will furnish a correct list of their recognised teachers to the secretary of this Court, at the commencement of every winter season.

Hospitals and Dispensaries.

No Hospital will be recognised by the Court, unless—

1. It contain at least one hundred beds.

2. It be under the care of two or more physicians, members of the Royal College of Physicians of London, or graduated Doctors of Medicine of a British University.

3. The physicians give a regular course of clinical lectures and instruction in morbid anatomy.

4. The apothecary be legally qualified, either by having been in practice prior to the first of August, 1845, or by having received a certificate of qualification from this court.

No Dispensary will be recognised by the Court, unless it be situated in some town where there is a recognised medical school, and be under the care of at least two physicians and an apothecary legally qualified.

No medical practice will be available, unless it be attended in conformity with the course of study prescribed for pupils.

APPOINTMENT OF CENSORS AND FELLOWS AT THE ROYAL COLLEGE OF PHYSICIANS.

THE Censors for 1849-50, are Dr. Southey, Dr. Nairne, Dr. Barker, and Dr. Jeaffreson. The following gentlemen have been nominated Fellows:—Dr. Stroud, Great Coram Street; Dr. Swaine, Upper Seymour Street; Dr. Philp, Kensington; Dr. Collier, Fitzroy Square; Dr. Wells, Reading; Dr. Shann, York; Dr. Munk, Finsbury Place; Dr. Abercrombie, Cheltenham; Dr. C. Handfield Jones, Sloane Street.

ROYAL COLLEGE OF SURGEONS—MEMBERS OF COUNCIL.

THE three following gentlemen were elected yesterday:—Mr. Hodgson, Mr. Luke, and Mr. Wormald.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 29th ult:—H. Brown—C. Veral—J. B. Gilbertson—B. Hunt—J. R. Jenkins—H. Day—W. E. Strong—W. Gregory—C. A. Bisset.

Admitted on the 2nd inst.:—T. Carey—F. C. Spackman—A. J. Cridland—W. H. Thornton—J. S. Bristowe—C. Harper—A. Ball—W. A. Skinner—R. C. Todd—J. W. B. Steggall—J. Buncombe.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 28th of June, 1849:—George Gordon Lawrence Williams, Llandovery—Robert Tassell, Wye, near Ashford, Kent—Peter Allen, Smarden, near Cranbrook—William Jeynes, St. John's, Newfoundland—Luke Blumer, South Shields.

PHYMOSIS AND PARAPHYMOSIS IN CHANCRE.

A QUESTION may arise at a certain stage, which of these conditions is preferable; that is, shall the phymosis which is forming be forcibly reduced while a chancre exists on the prepuce, or not? In two cases I saw this done, once by myself, and once by the patient's own act, leaving it irreducible; and the tendency of chancre to spread over any abraded or divided surface made the cases so troublesome that I should never wish to repeat the change. You may treat a chancre under an incompletely phymosed prepuce by injections. Why might not a weak solution of corrosive sublimate be more used? Or the black wash, and solution of cupri sulph., relying much also on the *internal use* of mercury, especially in such cases?—*Dr. Hartshorne; American Journal of Medical Sciences*, January 1849.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Monthly Journal and Retrospect of the Medical Sciences. July 1849.

Veterinary Record. No. 20, July 1849.

A Memorial to his Excellency the Lord Lieutenant on Irish Medical Charities, with his Excellency's Reply, &c.

The Retrospect of Medicine. No. 19—January to June 1849. By W. Braithwaite.

Journal of Public Health. July 1849.

Journal of Psychological Medicine. July 1849.

Pharmaceutical Journal. July.

The Treatment of Rheumatic Diseases by Lemon Juice. By G. Owen Rees, M.D. &c.

London Journal of Medicine. July.

Practical Observations on Cholera, and other Epidemic, Endemic, and Contagious Diseases. By Fred. Hanham, M.R.C.S. &c.

An Address to the Governors of St. George's Hospital. By S. A. Lane, Esq.

Wochenschrift für die Gesammte Heilkunde. Nos. 21 to 24. 26th May to 16th June.

Description of a Portable Respiratory Apparatus. By Thomas Haworth, M.D.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·87
„ „ „ Thermometer[a] ..... 60·2
Self-registering do.[b] .... Max. 100·7 Min. 32·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·10. — Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL. — The mean temperature of the week was about 1° below the average.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 30

BIRTHS.		DEATHS.		*Av. of 5 Spr.*	
Males....	801	Males....	680	Males....	494
Females..	750	Females..	537	Females..	469
	1551		1217		963

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	1217	963
SPECIFIED CAUSES	1214	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	349	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	59	48
3. Brain, Spinal Marrow, Nerves, and Senses	145	123
4. Heart and Bloodvessels	37	39
5. Lungs and organs of Respiration	105	131
6. Stomach, Liver, &c.	70	62
7. Diseases of the Kidneys, &c.	5	11
8. Childbirth, Diseases of Uterus, &c.	11	8
9. Rheumatism, Diseases of Bones, Joints, &c.	11	8
10. Skin	3	1
11. Old Age	37	50
12. Sudden Deaths	46	11
13. Violence, Privation, Cold, &c.	93	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	3	Convulsions	46
Measles	28	Bronchitis	46
Scarlatina	34	Pneumonia	39
Hooping-cough	53	Phthisis	133
Diarrhœa	30	Lungs	9
Cholera	124	Teething	8
Typhus	45	Stomach	3
Dropsy	33	Liver	21
Hydrocephalus	39	Childbirth	5
Apoplexy	42	Uterus	4
Paralysis	18		

REMARKS.—The total number of deaths was 254 above the weekly vernal average. Many of these surplus deaths consist of arrears of cases before coroners. We have made some remarks on the return at page 27.

NOTICES TO CORRESPONDENTS.

C. T. S., Barbadoes.—It is our opinion that the Hospital attendance, for three years, will not be dispensed with. The diploma of any U. S. University will not be received as a substitute for such attendance. A letter should be addressed to the Registrars of the Colleges.

The communications of Mr. Clark and Mr. Pretty, with those of other correspondents, are unavoidably postponed.

R. S.—So far as we know, no list is published.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

MANCHESTER MEDICAL SOCIETY

Lectures.

CLINICAL LECTURE ON THE INDUCTION OF ABORTION IN A CASE OF CONTRACTED VAGINA FROM CICATRIZATION.

By Henry Oldham.
Obstetric Physician, and Lecturer on Midwifery at Guy's Hospital.

Gentlemen,—A woman has recently left the hospital, whose case presents several points of interest, which I propose to bring before you in a clinical lecture. This is the case:

Reported principally by Mr. Dix, late senior Resident Obstetric Clerk.

Ann A., æt. 34, was admitted into 2, Mary's Ward, April 18, 1849, under the care of Dr. Oldham. Is an unmarried woman, living in Drury Lane; had one child three years ago at full time. Labour lasted 24 hours, and was completed by craniotomy. The perinæum was not lacerated, but the posterior wall of the vagina sloughed, laying open the rectum. She was seen by Dr. Oldham, and taken into the hospital, where the wound cicatrized and healed. Two months afterwards she had typhus fever, being still in the hospital, when sloughing attacked the vagina, and she became as bad as ever. She, however, recovered in two months, and went out cured. She could then walk, retain her urine and motions, and soon got quite well. Had to pass her urine very often, as is the case now. Suffers from occasional pain in lower part of abdomen.

At present she is nearly three months advanced in pregnancy, is in very good health, and has no inconvenience in passing her motions or urine.

On examination, the vagina is excessively constricted from the cicatrization, and only admits the first phalanx of the index finger. The cicatrix at one part projects into the vagina, and presents a sharp thin edge.

She is a short woman, with a healthy aspect; bowels rather sluggish, requiring occasional aperients; has frequent headaches.—Pulv. Rhei Salin. ℈ij. p.r.n.; Jul. Ros. Co. b. d.

Dr. Oldham proposes to divide a portion of the cicatrix, and then dilate the vagina by means of bougies, and induce abortion as soon as practicable.

April 23rd.—To-day Dr. Oldham divided the projecting ridge of the cicatrix by means of a curved probe-pointed bistoury, guarded by a fold of lint, having first introduced a catheter into the bladder. Some oiled lint was then passed up.

25th.—Has headache, and is rather feverish. Bowels opened three or four times a day.—Jul. Ammon. Acet. c. Sp. Æth. Nit. ʒss.; Tr. Hyoscy. ℥xx. b. d.

28th.—Is very comfortable.

May 1st.—The bowels having been emptied by a simple enema, an injection of ergot was administered at 8 P.M., the pulse (probably quickened by fear) being 96. One hour afterwards it was 90, and two hours after, 76. She perspired very much during the night, and felt rather faint and low.—℞ Secale Cornut. ʒij.; Aq. ʒxij; Decoque ad ʒvj.; cola et pro enemate utatur.

2nd.—Enema repeated at 9 A.M., the pulse being 72. It was not reduced by the action of the ergot, nor was she at all inconvenienced by it. Another enema was exhibited at 8 P.M., the pulse being 76. Its only apparent action was profuse sweating during the night, which she had never experienced before the use of the ergot.

3rd.—An enema administered at 9 A.M. in half an hour reduced the pulse from 76 to 62, and an hour having elapsed, it was 66, and she had slight pains in the lower part of the abdomen, like uterine action, but they did not long continue.

4th.—An enema was given at 9 A.M. without any effect, and another at 5 P.M.; two hours after she had pain, with discharge of blood. This, however, had a feculent smell, and came, not from the vagina, but the rectum, she having complained very much of pain from the introduction of the tube, the end of which was somewhat rough. She again perspired very much at night, but the pulse was unaffected.

5th.—Another injection was given at 9 A.M. without any perceptible effect. Hitherto the bowels had not been moved since the commencement of the use of the Secale Cor., and the whole of the enemata were retained. This plan being considered to have had a fair trial, was now given up, and Ol. Ric. ʒj. administered, which acted freely. She was then ordered to take the following:—

℞ Pulv. Secal. Cornut. ʒij.; Aquæ, ʒvj.; Decoque ad ʒiv.; sumat ʒj. tertiis quibus horis.

6th.—The only evident effect of this decoction was considerable sweating; the pulse, which was counted several times during the day, ranged from 72 to 80; and in the afternoon of the 7th, the equivalent of ʒvj. of ergot having been taken, she began to complain of headache and thirst, and the pulse rose to 100; it was discontinued, therefore, not the slightest uterine action having been induced.

8th.—Ordered Pil. Col. c. Cal. gr. st.

Mist. Magnes. c. Magnes. Sulphat. ℥ij., hora somni sumend.

9th.—Dr. Oldham passed a uterine sound, guided by the left fore-finger, in the rectum, about one inch and a half into the cervix uteri. This was soon followed by pain and slight sanguineous discharge, but they both soon ceased.

10th.—She appears quite well and comfortable.

12th.—Dr. Oldham having succeeded in passing the finger into the vagina, as a guide for the uterine sound passed the latter into the uterus itself for four inches, and rotated it. The only immediate result of this was a thick white discharge.

14th.—This evening she has considerable pain in the loins and lower abdomen, like commencing labour.

15th, 9 A.M.—The pains are intermittent, and to them is superadded great irritability of the bladder, and the uterus can be felt above the pubes distinctly hardening; and during a pain she complains of tenderness on pressure. In the evening all these symptoms had diminished.

16th.—They had entirely ceased, and she complained only of headache. The uterine souffle is heard, but the pulsations of the fœtal heart cannot be detected. No other treatment was adopted till

24th.—When an attempt was made to excite uterine action by electro-magnetism; a strong current being passed through the uterus, one pole being placed over the lower part of the sacrum, and the other over the fundus of the uterus, which now reaches within two inches of the umbilicus. This was kept up for a quarter of an hour, when a wire, isolated by being covered with sealing-wax, and surmounted with a knob which represented one pole of the battery, was introduced into the vagina, and applied to the os uteri. the finger in the rectum being the guide; and thus the current was directed through the uterus, the other pole being still applied over the fundus. This was also continued for a quarter of an hour: it caused contraction of the abdominal muscles, and a scalding sensation on the surface, especially on a fresh application; but there was no uterine action except that it was felt slightly hardening just after the application was discontinued.

25th.—The galvanism was repeated for half an hour: a quarter of an hour from sacrum to fundus as before; and a quarter from side to side through the uterus, both poles being placed on the abdomen,—but without any effect.

26th.—She fancies she had a little pain last night, accompanying a discharge tinged with blood; but the fœtal movements, which have been felt for two or three days, still continue very actively; therefore Dr. O. having failed to introduce his trocar with a protruding canula, again passed the uterine sound about four inches into the uterine cavity, and twisted it about somewhat. There was no distinct evidence of the membranes being tapped, yet it was presently succeeded by pain as of uterine action and slight sanguineous discharge; but this also proved a false alarm, for they soon ceased, and on 27th and 28th she continued well.—Ordered Mist. Salin. c. Tinct. Hyoscyam. ♏xx. 3tiis horis.

30th.—Dr. Oldham passed a common male sound into the uterus, and by a little manipulation it was distinctly felt to penetrate the amniotic bag.

This was followed by sanguineous discharge, and also a continued draining of watery fluid (Liq. Amnii), with irregular uterine pains, and great tenderness over the uterus: this was increased in the evening; the skin became hot; she was thirsty and restless, but the pulse continued quiet (76); has headache.

31st.—Discharge of Liq. Amnii has not yet ceased, though its flow is diminished; pain and tenderness of abdomen continue; and in the afternoon the pulse had risen to 90, and the heat of skin was considerable; has had no sleep, and complains much of headache; there is no decided uterine action.

In the evening she got some sleep, and was much better.

June 6th.—For the last five days there has been but little variation in her symptoms. The uterus has obviously lessened by the escape of the Liq. Amnii, which on one occasion flowed away profusely, soaking through a doubled sheet; but the discharge lasted only a few hours. She has been tolerably free from either abdominal or uterine pain; her mind has been tranquil, and the bowels and bladder have been regularly and spontaneously relieved.

At 6 P.M. last evening the uterus began to contract in a regular manner, and between 8 and 9 P.M. a leg was found with the funis protruding through the os into the upper part of the vagina. In the course of a short time an attempt was made to press, with the index finger, this part lower in the vagina, so as to assist, by this kind of imperfect traction, the birth of the fœtus. Eventually the leg was laid hold of, having been brought through the contracted vagina, and a firmer traction made upon the fœtus. The leg, however, separated at the hip-joint, and the same thing occurred to the other leg, and the funis also was torn. Some hæmorrhage now occurred, which made her rather faint, and a dose of ergot was administered. Dr. Oldham, having been apprised of her condition, came over to the hospital at half-past 1 A.M.

The trunk of the fœtus, with the arms,

were now within the vagina, and were there retained by the firm cicatrix at its orifice. They were loose, and slipped about upon being touched by the finger. By degrees, however, the fœtus was lessened with the action only of the forefinger. The brain was broken into, and at length the head, being moulded into a flattened shape by the pressure of the finger, was drawn gradually through the cicatrix, which had not yielded in any perceptible degree during the labour. The fœtus was firm, and not in any way decomposed. The body of the uterus was supported by the hand, and, under a little steady pressure, the placenta, accompanied with a few black clots, was thrown off and removed. This took place at half-past 2 A.M. Some saline medicine, with Tr. Hyoscy., ordered.

She recovered without a single drawback, and left the hospital, June 25, 1849.

The *history* of this case is connected with her previous pregnancy, and the circumstances which attended it; and, as I had been consulted by the medical gentleman who confined her, and subsequently admitted her into the hospital under my care, I can readily supply the particulars from the notes taken at the time by my then clinical clerk, Mr. Edwards. This young woman was illegitimately pregnant, and was confined in July 1846. The labour was protracted in the second stage, and the medical gentleman found it necessary to perforate the head and deliver her with the crotchet, which was completed without much difficulty. The child (a girl) was very large, weighing between 12 and 13 pounds. This was followed by sloughing of the lower part of the vagina, which laid open the rectum, forming a recto-vaginal fistula, and destroyed a great portion of the under part of the urethra, leaving, however, the orifice of the urethra and the neck of the bladder entire. The urine, although happily she could command the sphincter, passed in great part through the orifice of the vagina, and thus this passage became the common conduit of the secretions from the uterus, the fæces, and the urine. In addition to this loss of structure she had phlegmasia dolens, first of the left leg, and then the right; and the pelvic cellular tissue inflamed and suppurated, and the pus was discharged through the bladder. It was with this accumulated amount of disorder, the effect of which was seen in great feebleness and exhaustion, she came into the hospital in August 1846. Under the treatment which was then adopted, which consisted principally in supporting her powers by good diet and tonic medicines, — with incessant attention to the bladder, so as to prevent, by a frequent use of the catheter, both any large collection of urine and its passage through the vagina,— a cautious regard to the state of the bowels, —the strictest cleanliness,— perfect rest,— and the use of mild astringent and sedative washes,—reparation went on very favourably; and I had the satisfaction to find the recto-vaginal fistula spontaneously heal, and the fæces pass in their usual course. The separated edges of the urethra, too, gradually approximated, and that canal was at length restored, although shortened, so that the urine could pass without breaking into the vagina in its course. The inflammation within the pelvis, and its extension along the veins in both thighs, was entirely cured, and everything denoted a commencing convalescence, when she was attacked with fever, which was prevalent at the time, and which threatened to destroy her. One of the effects of the fever was, that the healing structures in the vagina gave way, and again the recto-vaginal fistula appeared, and the fæces, which, from the intestinal irritation which complicated the fever, were fluid, and constantly passing, added greatly to her distress. From this she gradually recovered, and as she regained her strength, so the opening closed, and eventually she left the hospital, with the vagina shortened from the contraction consequent on the complete repair of its anterior and posterior walls, and an annular band of hard cicatrix-tissue, which greatly contracted its aperture. Before quitting the hospital, I warned her of the mechanical hindrance there would be to marriage, and the dangers she would encounter if unfortunately she should again be pregnant.

It appears that she heeded this warning only for a time, and both it and all her former dangers were forgotten,—or formed, at least, but a frail and feeble defence before the solicitations of her former paramour. Occasional attempts at sexual intercourse, repeated at long intervals, took place; but the firm, hard, contracted band at the very entrance of the vagina quite prevented penetration, and it was this circumstance which she thought was a security against her ever becoming pregnant. The last day of her last period was on the 16th of January: sexual coitus occurred for the first time for six weeks on the 28th, and has never been repeated, and after that she ceased to menstruate. She subsequently called on me at my house, and told me that she feared she was pregnant, which proved to be the fact.

There are many points in this short preliminary history which are highly instructive, but they do not properly fall in with my present object. You see, however, some of the worst consequences of a labour rendered tedious from the large size of the child, and probably, too, the mental distress inseparable from illegitimate pregnancy, and how so formidable and loath-

some an accident as a communication between the rectum and vagina, may sometimes be relieved without any direct surgical interference. In this case the mischief was remedied, and the opening closed a second time, by simply improving the patient's powers, and so attending to the pelvic organs as to impede as little as possible the natural efforts at reparation.

But the present history of this patient commences with her *impregnation;* and you see at once that this has been accomplished with a positive bar to complete sexual coitus. There has been no penetration. The semen must have been deposited in the vagina, and from thence been transmitted to the ovum. It is imperfect in one sense therefore, but complete in having fertilized an ovum. With my own conviction that impregnation always takes place in the ovary, and that it is there the generative elements meet, the semen must have traversed the vagina, uterus, and tubes, without the usual aid from the act of ejaculation. And other facts bearing on this point have from time to time occurred to me, which prove beyond doubt these two points: first, that the amount of semen discharged into the sexual passages for the impregnation of the human female may be very small; and then that the deposit of the semen low down towards the orifice of the vagina is sufficient for impregnation. Notwithstanding this, however, it must be understood that any obstacle to the entrance of the male organ into the vagina may be a cause of sterility. Three weeks ago you saw a woman under my care here, who had been married seven years, and was sterile, and, on examination, I found a firm tough hymen, which had been somewhat stretched and carried in towards the vagina, but sexual coitus was so imperfect that the husband had half repudiated the wife, and the poor woman had lived under the persuasion that she was irremedially malformed. A cut with a pair of scissors soon removed the evil A private patient of mine had been married nine years, and was sterile, and difficulty had been experienced in marital intercourse. She had consulted different medical men, and mechanical attempts to dilate the ostium vaginæ by bougies, under the idea of congenital narrowing, had been tried, but without avail. When I came to examine her, I found that she had that follicular disease of the vulva which I have elsewhere described, and, as usual, the sphincter was firmly closed; and this was the obstacle, and not altogether an infrequent one either, to sexual intercourse. By sedative applications, &c., the disease was much relieved, and she became pregnant.

You see, too, in the history of this impregnation, another fact, that *its date is fixed.* Now I have taken some pains to be quite sure on this point: and I am well informed that the last day of her last menstrual period was the 16th of January—that sexual intercourse occurred on the 28th of January—that it had not taken place for several weeks before, and has not been repeated since, and consequently she was impregnated twelve days after menstruating. This has an important experimental reference to the modern theory of generation, which makes the menstrual period correspond with œstruation in the lower animals, and limits the period of conception to a day or two before, and about eight days after the flux. During this time it is affirmed that an ovum has been spontaneously cast off from the ovary, and during its slow movement through the sexual passages, that it may be impregnated; but should it not be impregnated that the female cannot conceive until a day or two before the next menstrual or œstrual time. The physical impossibility of pregnancy during this interval is not blinked by the supporters of this theory. You see if this were true that it would have a most important practical bearing. It constantly happens that cases come before us where either from disease of the uterus or pelvis, or sexual organs, or exhaustion from frequent abortions or protracted labours,—that it would be most desirable to suspend for a time or altogether prevent pregnancy. And this might be done were this really a physiological law, and without imposing a much greater restraint on sexual indulgence than does the old Rabbinical law. But the truth is, that this theory has been prematurely shaped into a law, and it will not, I am sure, bear a practical test. I know of cases, which I have carefully inquired into, where impregnation occurred at the respective times of ten days, twelve days, and twenty-one days after the monthly periods; and while, on the one hand, I am quite ready to admit a greater disposition to impregnation shortly after a menstrual period, yet I know of no facts to disprove the opinion that the human female is susceptible of impregnation at any time between her monthly periods. Look at an ovary, when you *know* that a fecundated ovum has been cast out from a Graafian follicle, and no matter when you examine it—whether a few days or a few months after its dehiscence,—there is a sure sign of its escape in the presence of a corpus luteum. Nothing can be more distinct or characteristic than this. And when ova have been detached at the œstrum of the lower animals, without sexual congress, corpora lutea have been seen in no respect differing from the ordinary corpora lutea. But at the so-called œstrum of the human female—at her menstrual time—I am quite convinced that no bodies, such as I know to be corpora lutea, are met with.

And I infer from this that no ovum or ova have escaped. But I have gone through this subject in detail before in lecture.

Treatment.—The first consideration with me in this case was, whether it would be possible, in the event of premature labour being induced at the seventh month, that a live child could be got through this impediment without compromising the safety of the mother. Remember that a child's life is second to the mother's; but then it is *only* second to it, and something of the same anxiety to preserve it, and the same resolute will to work out resources for doing so, ought to enter into all midwifery operations. Now it is not enough to feel a solid hard ring of this kind, with difficulty admitting the first joint of the finger, and then, comparing it with the bulk of the fœtus at the seventh month, hastily conclude that it would be mechanically impossible that the latter should be made to pass through the former. It is true that the probable size of the child,—which in this case, from her first pregnancy, might be presumed to be unduly large,—would claim attention; but a cicatrix will yield more, perhaps, than might be anticipated. In the first place, something may be done by incising it; and I did what I could in this way before inducing abortion, but without gaining any material good by it. But more particularly it will yield from participating in some degree in the vital softening and relaxation which goes on during the whole of labour throughout the sexual passages; and again, the mechanical propulsion of the presenting part will have a powerful effect in opening it. Besides this, when a part is greatly put upon the stretch, you may learn with greater accuracy where an incision will tell the most; and with those natural and this artificial assistance, aided by nauseating doses of antimony, and in a strong subject by venesection, even some very forbidding cases have turned out well. Some years ago I was desired to deliver a woman in whom the second stage of labour had been protracted from some cicatrices at the ostium vaginæ, the result of a former confinement; and who had suffered from a tumid œdematous state of the labia, with cracks and fissures in different parts of the vulva, particularly in the inner side of the larger labia and the vestibule. I found it necessary to lessen the head, and deliver with the crochet. Subsequently, when she became pregnant, I perforated the membranes at the seventh month, and the child was born after some delay; but having gasped faintly, it died.* In the case we are now noticing, however, after a careful consideration of this point, I felt well persuaded that to allow gestation to go on so long would be to expose this woman to all her former dangers; and I found that I had no alternative than to bring on abortion.

Induction of Abortion.—Now you know how the uterus through its large and enlarging nervous system evokes, during pregnancy, distant and varied sympathies; and I have recently described to you how primary irritation in other parts will, through the spinal cord, excite the motor powers of the womb, and produce abortion.* I did not much like a rare occasion of this kind to pass by without testing the efficacy of some of the alleged excitors of the uterus; and the first which I employed was

Ergot of rye.—This was administered in two ways—first, by injection through the rectum; and secondly, by the stomach. Some obstetricians have spoken confidently of the powers of the ergot to originate uterine contraction; and this mode of exhibiting it as an enema was suggested to me fifteen years ago by Dr. Marshall Hall. You see by Mr. Dix's report, that we used it twice a day in the equivalent of ʒij. doses of the powder for four or five days; and, although at one time some uterine pain was induced, yet it soon subsided. I requested Mr. Dix to count the pulse now and then, and on one occasion it was reduced from 76 to 62; but this depression was not steady or sustained. It appeared to act very much on the skin, producing profuse diaphoresis. You must remember in employing an enema so frequently in this way, that you cause mechanical irritation of the rectum, which in itself may excite the uterus,—so that, supposing the abortion had taken place, the peculiar influence of the ergot might perhaps have been questioned.

This drug was given *internally* to the extent of ʒvj. in a day and a half, the dose being ʒss. every three hours in decoction. It caused her to sweat, and after a time brought on headache and thirst, with a *rapid* pulse; but it failed to excite the uterus. Having cleared the bowels by an aperient, and kept her at rest for two days, I then endeavoured to disturb the ovum.

Disturbance of ovum.—For this purpose I passed a uterine sound into the cervix uteri, guiding it with the index finger in the rectum, and at first moved the membranes away from the lower part of the uterus, and removed a portion of the mucus plug from the cervix. On another occasion I passed the sound four inches within the uterus, and

* This kind of obstacle to labour, requiring the induction of premature labour, does not appear to have occurred in the extensive clinical experience of Dr. Lee.

* The very terms here employed are a sufficient reference to Dr. Tyler Smith's recent work, —so completely has he made the interesting subject of reflex obstetrics his own.

not only carried the membranes, without rupturing t em, before it, but I rotated the sound much in the same way that a surgeon does when he sounds for a stone in the bladder. I looked upon this as a powerful and direct uterine excitant, and the symptoms which came on in forty-eight hours after seemed to justify the opinion. But they subsided of themselves, without leading on to abortion. I then allowed nine days to elapse, during which the uterus was quiet, and the uterine souffle and the movements of the fœtus were first heard, when we commenced the employment of electro-magnetism.

Electro-magnetism.—Dr. Radford, of Manchester, suggested the use of electro-magnetism for this purpose; and I confess that to attempt to originate labour-pains by its means is a far more severe test of its efficiency and force as a uterine excitant, and far less open to ambiguity, than when employed in uterine inertia, &c., when labour has already set in. I have now tried it twice as a primary excitor of the uterus. The first case is already recorded in the Guy's Reports*, where labour was missed altogether; and this is the second. In neither case did it answer the purpose. In the present case we employed the highest power, and the current was directed at first between the point of the uterus and the sacrum; then between the cervix uteri and the abdominal walls over the fundus; then from side to side; but, although this was repeated for half an hour on two successive days, under favourable circumstances, yet it failed altogether to excite the uterus to contract. The abdominal muscles, however, where they were touched by the pole, shook and vibrated, as though the influence was felt more upon the surface than the organ it was designed to be concentrated on. My present experience, therefore, is far less favourable to electro-magnetism as a uterine excitor than I anticipated; but we still need experience upon it.

I found that so much time had been taken up in these experimental trials, and the uterus with the ovum within it had increased so much, that it became necessary to have recourse to some more certain means of emptying the uterus. And for this purpose I determined to puncture the amnion, which, after all, is the safest and the surest means of putting a stop to pregnancy. You may be quite certain, that if the amnion be punctured, however small the opening, the Liquor Amnii will run out in more or less quantity, and the ovum be expelled. In the later months premature labour may be induced, and the membranes preserved entire, by artificially stretching, with sponge tents, the os uteri; and I have adopted this plan successfully. But it is open to more abuse and local injury, it is more meddling and tiresome to your patient—and it is more likely to disappoint and fail than the puncture. But before I refer to this operation, I would make one or two remarks on the antecedent means which we have spoken of: and

First. You will notice, that to produce abortion in a healthy female, with a healthy uterus, is not the easy thing which you may possibly have imagined. We are apt to regard the extraordinary susceptibility which some women show to abort, as in a great measure a condition of pregnancy generally; and hence, in the management of pregnancy, there is a disposition to limit and curtail those healthful hygienic exercises which, in the unimpregnated state, are so useful. I am very sure that the so-called emmenagogue remedies—such as aloes, savine, ergot, iron, &c.—which, either accidentally or for a more criminal design, are given to cure the amenorrhœa of pregnancy,—or, in other words, procure abortion—in a majority of cases signally fail in their object. There are, however, undoubtedly times more favourable than others for exciting the uterus to act. It is a bed-side fact, that abortion is more common at what would be a menstrual time; but I would also say, that the uterus is more readily moved to act in the early months, when it is still in the pelvis, than when it has risen into the abdomen and again, at the seventh month than at the fourth or sixth. You may reckon practically on the diminished sensibility of the womb to the various exciting impressions after quickening; and you notice in this case that much of what we attempted was after this time. Why, it was only last Tuesday that you saw Mr. Key amputate the leg of a woman who was six months advanced in pregnancy, and that, too without the inhalation of chloroform, which she would not have; and yet this formidable operation has not disturbed the ovum. The fœtus is now moving as before, and its heart is beating.

Secondly. I beg you to notice that these several agents produced a certain amount of uterine contraction and even pain; and the womb hardened, and its abdominal outline was easily defined: and yet it again became flaccid and quiescent. Now, this kind of tonic contraction will often occur during gestation, after walking to over-fatigue, or exposure to cold, or bowel irritation; and you may feel the uterus harden under this species of false pain. Now I speak of this, because it is the only kind of uterine movement, independently of labour, which, practically, I am acquainted with. I do not know what Dr. T. Smith calls peristaltic movement of

* Vol. v. page 105.

the womb; and far less can I apprehend such an active movement from this source as to form the chief part of what is usually considered the lively contraction of the fœtal limbs.

Thirdly. You must also bear in mind, in estimating the power of any of these means to excite the womb, that there was an agency at work concurrently with them all, which is beyond our control, and of different intensity in different women. This patient was deeply interested in the result; she was anxiously longing for its completion: and her fears and anxieties formed so many emotional excitors of the womb, which, perhaps, as much as the agents themselves, caused those feints at labour which are recounted in the case.

Opening the ovum.—The common plan which I adopt for opening the ovum by puncturing the membranes, is by employing an instrument which consists, as is here seen, of a cylindrical silver canula, slightly curved at its further end, with a single opening, and two wire loops projecting from the sides of the other extremity, through which two fingers may be passed to hold and fix it. A moveable stilette, tipped with a sharp point like a trocar, and so cut that the point does not touch the sides of the cylinder when the stilette is run through it, can be made at option to pass beyond the end of the canula. The way to use it is this:—Place the patient, if you like, on the left side, run up the index finger of the left hand to the os uteri, and if possible *within* it; then guide the instrument with the point of the stilette concealed in the canula, on the finger, within the uterus, and carry it forward until you feel that there is some resistance; then press the point of the stilette against the membranes and pass the canula a little further on. Then withdraw the stilette and let the liquor amnii flow through the canula. It is a good precautionary point to prevent the waters breaking forth too impetuously, because in doing so, either a loop of funis, or a hand, or even a leg (as I have once* known), may be washed down by the side of the presenting part, and complicate the case.

Now, in this case I could not employ this instrument, simply because the cicatrix in the vagina prevented me from directing it sufficiently backward to run in the axis of the womb. It required an instrument with a much stronger curve; and for this purpose I selected a common male sound. Again, I did not place the patient on the left side, but on her back, and for this reason:—my index finger could not reach the os uteri, but only the margin of the anterior lip, and hence I had to guide the sound more by the eye than the finger. Besides which, you can do so much more with the body of the womb with the patient on the back than on the side. Your two hands can act so much better in concert: you can impress the contents of the womb, and really, in some cases when the fluid contents of the ovum are large, as is the case in the fourth month to the sixth, you can sometimes gather the fœtus up to one part; and again, by pressure downwards, you can make a column of the liq amnii press out the membranes, rendering them more tense, and so help their puncture. You may learn a great deal, both in midwifery and in the organic diseases of the womb, by always examining *the body of the womb*, and not merely its os and cervix. Nothing could be more ready than the introduction of the sound in this case. It slid into the uterus without any pitch; but I had to carry it before the yielding membranes some way before I could get bearing enough on them to perforate them. She complained, as you see by the report, of some pain about the uterus afterwards; but this disappeared by keeping her quiet, and procuring for her some sleep, with some warm stupes over the abdomen. The liq. amnii drained away in large quantity, and continued to do so, in more or less quantity, until the 5th of June, an interval of more than five days, when labour commenced.

The *time* which elapses between the puncture of the ovum and the supervention of labour varies very much in different cases. Five or nearly six days is a long interval, the longest that in my own experience I have known. The period of gestation probably has something to do in retarding it.

Before quitting this matter of puncturing the ovum in early pregnancy, I wish you to bear in mind that a few weeks of development makes a great deal of difference in the anatomical relations of the ovum. You see I punctured the amnion in this case as late as the eighteenth week, when the ovum well fills the cavity of the uterus: but supposing I had done so between the second and third months: well, in that case, if you examine this preparation (an impregnated uterus at the second month), you will see that the ovum, covered by its vascular reflex decidua, occupies only a part of the cavity of the uterus, and that there is a second large cavity, if I may so say, which, as it is lined entirely by the uterine and reflex decidua, is properly

* This is a very rare case. That which I refer to occurred in a patient of the Lying-in-Charity at Guy's, and was attended by my former pupil and friend Mr. Lund, now of Manchester. Coincident with the rupture of the membranes, and a proper flow of the liq. amnii, a foot came down by the side of the head, and soon became so fixed that it could not be moved. Mr. Lund attempted to turn the child, but without success; and when I saw her the fœtal heart (which had been watched by Mr. Lund) had ceased to beat, and I delivered her by the crotchet.

enough termed the decidual cavity. Now, this cavity is of great importance to the early ovum. It holds an embryotrophe, which is secreted by the glands of the uterine decidua, and is conveyed to the ovum through the cells of the reflex decidua. It is thus a source of nutrition to it—a kind of supplementary digestive sac. Beside this, it has a mechanical action, and holds off the dense uterine walls from the growing ovum, so as to allow the latter to expand, which at length it does to the entire obliteration of the decidual cavity. Well, then, what would you do if you passed a sound into such a uterus as this? You would of course, unless the placenta was over the os uteri, at once open this cavity. And now comes the practical point—Would this be the equivalent of tapping the ovum? The cavity would necessarily be emptied by the fluid flowing out, which would accomplish two things:—1st. It would withdraw from the ovum an important source of its nutrition, and 2dly, the walls would sink and contract upon it, which would go far to flatten or crush it; and I cannot but think that this would generally be sufficient to cause abortion. At any rate it is a lesser operation, which may well be attempted at first. If you are obliged to puncture an ovum at a very early period, it requires great care lest you injure and inflame the uterus; and also, by lessening the already small ovum, and destroying its shape as an oval sac, you impose a far greater difficulty on the womb to cast it off. Indeed, the collapsed membranes may be retained for some days or even weeks, and be cast off piecemeal, with fœtid discharges and recurring hæmorrhages; and the female, by the time the uterus is cleared, be left in a feeble and exhausted state. I believe, gentlemen, if you have ever to conduct a responsible case of this kind, (I am speaking of an early period, say the sixth month), it would be better for you to be content with opening only the decidual cavity, and excite the uterus by other means, or postpone, if possible, the puncture of the ovum until the sixteenth week.

I have but a word to say on the delivery itself. The fœtus was without much difficulty expelled into the vagina, and Mr. Ringer hoped by traction by the feet to bring the body through the contracted vagina: but first one leg separated, and then the other. The head and trunk of the fœtus formed a firm mass, which slipped round and round in the vagina whenever it was touched; and I had some trouble, and consumed some time, in bringing it away. This was done by breaking it down as much as possible with the forefinger, and at length so moulding it as to get a kind of edge of the cranial bones through the narrow orifice. This was secured by a pair of dressing forceps, and by degrees I drew out the whole together. The placenta was easily removed. Her recovery went on uninterruptedly; and I hope that she will never again be so foolish as to run the risk of becoming pregnant.

CLINICAL LECTURE
ON
FRACTURE OF THE SPINE.

By John Adams, Esq.
Surgeon to the London Hospital.

(*Reported by* Mr. Stewart.)

William Henry Collis, æt. 35, Custom-house Officer, was admitted into the London Hospital on the morning of Dec. 15, 1848, with *supposed* fracture of the spine.

He was attending a fire on board a ship in the London Docks, and, after it was extinguished, as he was moving about the vessel, fell down the ship's hold (the distance being about 25 feet), with his back over a bag of rice, and from that time till just before he arrived at the hospital he was insensible.

When brought to the hospital he was in a state of collapse. There was scarcely any pulse at the wrist, and the extremities were quite cold. Three ounces of wine were given him, and hot bottles applied to the arm-pits, &c. After a time he rallied: his pulse got up to 80, and he had the following symptoms—viz. there was paralysis of the lower extremities, and insensibility of the parts as high up as the crests of the ilia, and which continued to spread as high as the umbilicus. He had priapism, and inability to pass his water; he was in excruciating pain over the *chest*, and also over the abdomen above the umbilicus; there was slight difficulty of breathing, and continued grinding of the teeth, as if he were suffering intense pain; he had also a chilly feel upwards, and his countenance had also a peculiar appearance, as if suffering from intense agony.

The back was not examined, as the patient was suffering so much; but he was placed upon a water-bed, and, the pain still continuing, half a grain of acetate of morphia was given him, and he was fomented with hot flannels over the abdomen.

At 1 o'clock of the same day the surgeon saw him, and ordered ℥vj. of wine, and strong broth as much as he could take, and his water was to be drawn off three times a day.

On trying to pass a catheter (large size), it met with some obstruction about the triangular ligament, and blood continued to

run out of it. The patient then said he had a stricture: the instrument was withdrawn, and a smaller one used, which, after great difficulty, entered the bladder, and about six ounces of rather light-coloured urine were drawn off.

In the evening of the same day (15th) the patient was much the same: the symptoms were almost as severe as in the morning, except that he did not suffer quite so much pain. The same catheter was introduced as in the morning, and ʒxvj. of darkish-coloured urine were drawn off. After this he took half a grain of Morph. Acet., and he was also ordered ʒj. of castor oil.

Dec. 16th.—The patient has passed a quiet night, and slept a few hours at the earlier part. His bowels have not been open, but there have been frequent escapes of flatus. His water is drawn off as on the day before, and is strongly acid. The priapism, paralysis, and insensibility, continue as yesterday. In the evening of the same day he passed his fæces involuntarily. He took Morphinæ Acet. gr. ½ at night.

17th.—He has passed a quiet night, and has had scarcely any pain. He passed a copious stool, but quite involuntarily. His water is still very acid; the priapism is less, and the patient feels more comfortable. He wished to have porter instead of wine.

The patient has a severe diarrhœa, so that he requires the sheets to be constantly changed. He takes Mist. Cretæ Aromatic. ʒj. c. Tr. Opii. ℥v. frequently. His water is still acid.

19th.—The diarrhœa has stopped, but the patient passed a very restless night, and is considerably worse this morning. His skin is very moist and hot, and his tongue covered with a dark-brown fur. Pulse 120. —ʒvj. of wine were ordered him. The priapism has entirely disappeared. His urine dribbles away, so that he is constantly wet. A catheter was introduced, but his bladder was empty.

20th.—The patient is much the same as yesterday. Pulse 150. Tongue dry, and covered with a brown fur. He is very thirsty; he is in no pain. He was ordered ʒviij. of wine and jelly, and Morph Acet. gr. ½ h. s.

22d.—The patient's tongue is cleaner, and his skin is not so moist or hot. His bowels have not been open since Tuesday. He was to take Ol. Ricini, ʒj. statim.; Morph. Acet. gr. i. o. n.

23d.—He has felt this morning a kind of trembling in his right leg, which afterwards went to the left; but the insensibility and paralysis of the parts continue, and his motions and water, which is still acid, pass involuntarily.

Jan. 2d.—The patient has improved considerably: he is able to eat part of a mutton chop; but his urine is slightly alkaline, and the other symptoms continue as before.

8th.—The patient still continues as before; his urine is very alkaline and muddy, and he has a sore on the back; the insensibility and paralysis of the parts continue, and his water and fæces pass involuntarily.

Feb.—There is no improvement in the patient; some days he seems better, others not so well; his bowels are kept open by castor oil, and he takes Morphinæ Acet. gr. j. Hs. c. o. s. He has a bad sore on the back.

March.—The patient, when raised to have the sheets changed, has a whitish discharge from the urethra, probably the triple phosphate. The left hand is completely drawn under by the contraction of the flexors of the fore-arm, so that the fore-arm and hand are obliged to be laid on a splint. In other respects he is much the same: galvanism has been applied to the back, without any effect; it has not caused the slightest action of the muscles. Urine still alkaline and turbid.

June 15th.—Since the last report I cannot say that there is any improvement in his condition, and his present state may be summed up in a few words. He is completely paralysed below the chest, the whole nervous supply being cut off—volition, sensation, and the excito-motory power being destroyed; his sphincters are paralysed, but there is slight sensation when the water passes; the nutritive or organic functions continue with regularity, and his aspect does not indicate any serious mischief; nay, it would almost seem that under this condition of absolute insensibility, there is less disturbance of the system from irritation of diseased parts than there would be if the nervous supply to the bladder were not compromised.

Electro-galvanism has been used daily for some time to the muscles of the thighs and legs, but no effect was produced until needles were inserted, when visible though feeble contractions were elicited in the muscles of the thigh, whereas no influence was perceived on those below the knee. Since this, electricity in the ordinary method has been employed, with the effect of producing decided contraction of the muscles af both limbs.

He is now ordered 1-12th of a grain of Strychnine three times daily.

Gentlemen,—I have brought this case before you to-day, as the man is about to be discharged from the hospital, because it affords a fair illustration of a type of cases of no unfrequent occurrence. In my last lecture I said that I would adduce a case bearing an analogy to those I previously considered—namely, fractures of the skull; and this is the instance alluded to. There can be no doubt that to a certain extent fractures

of the spine are analogous to fractures of the skull, inasmuch as in the latter the brain is implicated, so in the former that extension of the brain, the spinal marrow, is particularly involved: indeed, the whole of the symptoms in these accidents, or nearly all, are referable to the peculiar condition of this important organ.

Let us now consider the symptoms of fractured spine, as shown in the case before us. The man is admitted having fallen into the hold of a ship, a distance of 25 feet, across a bag of rice, and he is taken up quite insensible, and brought to the hospital, where after a short time he recovers his senses, and is found completely paralysed in his lower limbs, and indeed in the lower part of his trunk: he has, however, considerable pain extending across the chest and abdomen, and there is remarked erection of the penis, more or less complete, constituting that peculiar condition called priapism. It is afterwards found that he has retention of urine, and in a longer or shorter time his motions pass involuntarily from him. These may be set down as the signs of a fracture of the spine generally, and if under these circumstances the finger is run along the spinous processes of the vertebræ, some irregularity may beperceived, and a sense of pain is experienced if the part be roughly handled: or it may happen that you are unable to feel any irregularity, and you infer the nature of the injury from the functional signs.

An analysis of these symptoms will at once show them to be for the most part the consequence of some injury of the spinal cord, possibly a division of this part, or a contusion, or possibly compression of the organ: thus the paralytic state of the lower limbs, as shown by the loss of voluntary motion and sensation, are clearly referable to this condition; so also the retention of urine and incontinence of fæces depend, as I shall show you presently, on the same condition. No mention is made of reflex action in the case, and I am uncertain, not having seen the case at first, whether the phenomenon of the excito-motory function existed or not. In respect to the retention of urine and incontinence of fæces, I shall make a few observations. It may be asked how it happens that the fæces are involuntarily expelled, whilst the urine is retained? Can we explain this on physiological grounds? I think we can, and I offer the following explanation:—The urine is retained in the bladder naturally, partly by a sphincter apparatus, and partly by a quantity of a tissue intermediate in its character between elastic and organic muscular tissue: now the *musculus detrusor urinæ*, which is a voluntary muscle, and under the control of the brain and spinal cord, being under these circumstances paralysed, the urine is retained in the bladder by the continued organic contraction of this elastic material; but after a short time this also gives way, and the contents of the bladder pass away involuntarily. With respect to the discharge of fæces, it is very easy to comprehend how it happens that this occurs involuntarily: thus the sphincter ani, which is regulated in its action by the spinal system of nerves becoming paralysed, the peristaltic action of the intestinal canal, which is independent of the spinal cord, continues to force onwards the contents of the bowels, and all resistance to their exit being removed, they at once escape. I think this explanation satisfactory, and I venture to offer it to you at any rate as highly probable.

Let me now direct your attention to the state of the penis. Priapism is a very common attendant on fractured spine: this consists in erection of the penis more or less complete: the erection is scarcely ever quite equal to that which occurs under natural circumstances. It is a phenomenon difficult to explain, and the first question which suggests itself to us is,—does it depend on a paralytic state of the organic muscular fibres pervading the trabeculæ of the cells of the corpora cavernosa, or is it the result of irritation of the nerves of the penis? That it does not arise from the inability of the muscular apparatus just mentioned to get rid of the blood, is, I think, apparent from the fact that it gradually subsides, although the general paralysis increases: for you will generally find that it wholly disappears in a few days. I am inclined to the idea that it depends on irritation of the nerves of the penis, from injury to the spinal cord; and I think in the case before us, the evidences of irritation were shown in the pain extending over the chest and abdomen soon after the accident; and that irritation even exists at present, is seen by the permanent contraction of the flexor muscles of the left fore-arm, by which you perceive the hand is completely distorted. The irritation leading to the phenomenon in question may depend on slight effusion of blood into the medulla spinalis; and although no sensation exists in the penis now, yet that is no argument against the existence of irritation, of irritation not perceptible to the senses, but of an insensible organic nature, which gradually subsides, and the penis becomes again flaccid.

In further watching the progress of the case before us, we next remark that after a few days the urine, from having been natural in its character, and presenting a naturally acid reaction, is suddenly found to be altered in its condition, to be turbid, ammoniacal, and alkaline: I beg to impress this point strongly on your minds as a symptom of vast importance. You will almost invariably find the urine become speedily alkaline in

fractures of the spine. Why is this? Is there any alteration in it when first secreted, or does it assume its alkalinity whilst in the bladder? Does it come down alkaline from the kidneys? I believe that it usually does not, but that it attains its alkaline properties after being received into the bladder. You will find in the MEDICAL GAZETTE for 1835-6, a paper by Mr. Curling, on this subject: in this he has proved that in the early periods of this accident the urine descends into the bladder acid, but after remaining for some time it becomes alkaline. He made his observations by introducing a catheter and washing out the bladder, so as to leave no residue in it, and then permitting the urine to pass through the instrument as it descended from the ureters, he tested it, and found it acid. It is very true that after some time this condition is altered, and alkaline urine is secreted, but that is perfectly intelligible, when we come to understand the cause of this change. It has been supposed that this alteration arises from the residence of the urine in the bladder, and decomposition: this opinion will not stand the test of examination. The irritation of the catheter has been supposed to produce it, or the introduction of atmospheric air: but neither of these are satisfactory. There is little doubt that it depends on inflammation of the mucous lining of the bladder, which you will find to occur in these accidents, and often to such an extent as to lead almost to gangrene. Now admitting this inflammation to occur, the mucus poured out under such circumstances, gives rise, according to a well-understood law, to the disengagement of ammonia, and hence the consequent alkaline condition of urine. No doubt, if the urine were examined with the microscope, we should find the debris of inflammatory casts of the tubes of the kidneys and other indications of inflammation, and in all probability abundant crystals of triple phosphate.* It is very easy to understand the reason of the urine after a time being secreted alkaline: it is clearly dependent on the extension of the inflammation along the ureters to the very minutest tubes of the medullary and cortical tissue of the kidneys, to the tubes of Bellini and Ferrein, in consequence of which the character of the secretion becomes altered.

As to the cause of the inflammation of the mucous membrane of the bladder, which gives rise to the effect just dwelt upon, that is involved in much obscurity, and I regret I cannot offer you an explanation sufficiently satisfactory: I therefore content myself by simply mentioning that it has been thought by some pathologists to be in some manner or other connected with the nutrition of the membrane, which may possibly be interfered with in consequence of the injury done to its nerves: in fact, this peculiar change has been compared to that form of inflammation of the eye and cheek generally leading to destruction of these parts, and which depends on some injury or disease of the nerves supplying them. There is one circumstance of interest connected with this subject—namely, that the constitution suffers very little, notwithstanding a considerable amount of actual disease exists. I think this must depend upon the entire absence of pain: and hence a great deal of constitutional irritation is avoided.

You will remark, that in this case, as well as in many others of a like nature, the aspect of the patient is comparatively cheerful, and that he really looks like a person in perfect health; and yet this man is, as it were, dead below a certain point of his body. His appetite is tolerably good; his respiration is natural; his heart performs its functions with regularity, and his digestion is not impaired; in fact, his organic functions are performed uninterruptedly, whilst a large portion of his animal machinery is essentially and irremediably compromised. It is apparent, in fact, that those parts of the body which are dependent for their nervous supply on the sympathetic or ganglionic system of nerves are comparatively free from serious derangement.

I have now to offer a few observations on the subject of the treatment to be followed in these serious injuries. Having examined the patient, you place him at once on a water-bed, you pay attention to his bladder, and draw his water off night and morning, and you must be especially careful to keep him clean, so as to prevent any irritation of his skin from the constant discharge which is passing *per anum*, and you must be aware that the skin of the back and over the sacrum is liable to slough from constant pressure, as no pain is felt, and consequently he is not induced to ask for a change in his position. Mild antiphlogistic treatment is required: thus you may take a few ounces of blood from the arm; but I confess I am not very favourable to the abstraction of much blood in these cases. You may also give a grain of calomel night and morning, but do not push this to salivation: it will probably keep the bowels slightly on the move, which is as much as you desire. This plan may be continued for a short time—say a week—after which moderate support and tonics are requisite, and stimuli become essential generally in the progress of the case. The bladder should be occasionally washed out, and nitric acid, diluted, may be administered with the decoction of Pareira. I need

* This opinion has been confirmed by a subsequent examination.

scarcely say that leeches or other applications to the seat of injury are objectionable. There are two points of great practical interest to which your attention ought to be directed in the management of fractured spine at the beginning of the treatment,—I allude to the employment of extension as a means of reducing a vertebra when fracture is supposed to be accompanied with dislocation; and the second is the propriety of trephining the spine, to remove a portion of bone pressing on the medulla spinalis. As to the employment of extension, this is no novel idea, and has been occasionally resorted to. I have generally seen it pursued in injury of the cervical vertebræ, which, from the peculiarity in their articulating processes, are more liable to dislocation than any other class: you will, however, almost invariably find these injuries complicated with fracture, although the fracture may not immediately involve the articulating processes; and I remember a case where, from the distorted state of the neck from accident, I was under the impression that dislocation had occurred, and where a little extension of the head relieved the man completely. I am, however, not by any means convinced that the vertebra was dislocated. Extension has been employed where the displacement has occurred in the other regions of the spine, but it has rarely been attended with permanent advantage. I do not think, however, that, if it is carefully conducted, any positive injury can happen.

Are you justified in trephining the spine? If you entertain the idea for a moment, you do so, of course, on the presumed analogy between compression of the brain and compression of the spinal cord; and the analogy in many respects holds good, but not in all: the difference, in my opinion, is this—that wherever the spinal cord has been subjected to pressure from fracture, its tissue has become so altered as generally to preclude the possibility of its ultimate restoration. Not so the brain in fracture of the skull with depression. The operation of trephining the spinal column has been performed at least seven times, and the honour of originating the operation is due to Mr. Henry Cline, who in the year 1814 first performed it. I believe there is not a single case on record of a successful result after the operation; but I do not mention this circumstance as prohibitory of it. I confess that I am by no means sanguine as to the probable result of such a proceeding. If you determine to perform the operation, you must lay bare the spine by carefully detaching the muscles in connection with it, and you then cut out with a saw or trephine a piece of the root of the spinous process and laminæ of the vertebra, so as to expose the canal. Now all this is a very formidable business, although there cannot be much difficulty in accomplishing it; and I cannot recommend it, nor would I lightly undertake it.

There is one other circumstance I wish to allude to in this case: it is this—namely, the employment of electro-galvanism and electricity to the muscles of the thigh. I ordered this after the patient had been under my care for a short time, and I have continued it at intervals since. When used in the ordinary manner it produced little or no effect; but lately needles have been inserted into the limb, and although the muscles below the knee were scarcely, if at all, influenced, yet those above the knee exhibited distinct indications of irritability. The object I had in view was two-fold—namely, first, to excite the irritability of the muscular fibre; and, secondly, to maintain the due nutrition of the muscles, so that they may retain their natural structure and irritability, and thus be ready to be brought into action, should volition be again restored; for if they are allowed to remain inactive for any length of time, they degenerate into fat. The prognosis of these cases is usually unfavourable: the greater number are soon destroyed by infiltration into the tissue of the lungs, or they eventually succumb to the general irritation arising from the affection of the bladder, or they die exhausted by the discharge from bed-sores. The case before us may linger on for a long time: indeed, he may possibly continue to exist for a considerable period, and die of some other disease, or he may make a complete recovery, which is not to be expected, as there seems no prospect of a return of volition and sensation in the lower limbs, nor has the power to retain his fæces or urine in the slightest degree improved.

I have thus briefly detailed the symptoms of the case before you, and made some general allusions to cases of a similar description: not that there is any novelty in my observations, but because I think it most desirable that the junior part of my audience may know how to treat cases of fractured spine, and may be aware of what is likely to happen in such lamentable injuries.

QUEEN'S COLLEGE, BIRMINGHAM.

At the meeting of the Council held on Tuesday July 3rd, the Rev. Chancellor Law, the Vice President, in the Chair. Mr. George Bellasis Maspen, of Stafford, was enrolled in the list of Fellows under the provisions of the supplemental Charter. Mr. G. B Maspen distinguished himself as the Warneford medallist for the year 1847.

Original Communications.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE ALIMENTARY CANAL.

By William Brinton, M.D. Londin.
Demonstrator of Anatomy in King's College, London.

[Concluded from page 14.]

Part II.—continued.

I have next briefly to detail the results of experiments in which the intestinal tube was artificially occluded by the application of a ligature: some of these have been already adduced, where their connection with preceding parts of the argument has rendered such a course desirable; and it only remains to examine more minutely into the symptoms and post-mortem appearances, with a view to elicit any additional circumstances from which we may derive assistance in deducing the theory of this action, and assigning its relations to others which resemble it.

The animals subjected to the operation were dogs and cats. The latter were previously rendered unconscious by the administration of ether; but with the former nothing but a very noisy struggling intoxication was produced in the one or two cases in which that drug was used.

A thick tape constituted the means of deligation, and this was generally tied so as to obliterate from half an inch to an inch of the canal, in order to avoid the restorative process described several years ago by Mr. Travers. Despite this precaution, in one instance where the ligature was a little narrower than usual, a sudden remission of the symptoms led to a suspicion that this process had occurred, and the steady improvement which followed had almost attained apparent health, when the dog was killed; on the fifth day after the operation, and the third from the cessation of the vomiting. The intestine was found to be completely united in its whole circumference. Internally, the mucous membrane offered two raised lips, separated by an interval; and in contact with this circular fissure ran the ligature, which so far preserved its shape as to occupy, without occluding, the cavity of the bowel. Externally, a thick coating of soft coagulable lymph covered the seat of the original stricture. The ligature itself was of a sufficient breadth and thickness to make it very unlikely that any of the coats of the intestine had been divided at the time of the injury, as was supposed to have happened in the cases detailed by Mr. Travers; but, with this probable exception, nothing can be added to that gentleman's description.

In every other instance the intestinal canal was greatly dilated immediately above the strictured part, but to a variable extent: thus, where fæcal vomiting had occurred, the distension was generally excessive. From this point the tube gradually narrowed as it was traced up to the stomach, rarely exceeding its natural diameter in the upper extremity of the duodenum. The length of the dilatation exhibited a close relation to its greatest width.

In one case, the inflamed and injured portion was soldered by lymph to a neighbouring loop of intestine, and in this manner had effected a singular secondary constriction, and it was only above this latter stricture that any marked dilatation was present.

It is singular to remark how little will sometimes suffice to effect the physical obstruction of a bowel, as in this instance. A similar one was brought under my notice in the human subject. The division of the stricture of a strangulated hernia had been followed by no remission of the vomiting or general symptoms. An artificial anus then formed at the wound, to the immediate relief of the patient: but on her dying some days after of the consequent exhaustion, it was found that at the seat of the stricture the liberated tube was still almost obliterated. The introduction of a finger easily overcame this contraction, although for twenty-four hours after the operation the whole powers of the intestine must have striven in vain against it. Similar cases are probably known to many surgeons.

The degree in which the stomach was distended offered considerable variety: where excessive, it was partially due to the ingestion of water. The pylorus was generally open, always easily permeable.

Below the occlusion, an inch or two of empty contracted intestine was almost universally present.

The fluid found within the tube varied both in *quality* and *quantity*.

In some, in whom its amount was very great, an uniform green fæcal fluid occupied the whole of the intestine and stomach. In others, there was a decided difference in the consistency of the contents, which were often of a hardish pultaceous character in the immediate vicinity of the stricture, but more fluid in the neighbourhood of the pylorus and in the stomach.

Gradations of amount were also well marked. They ranged from enormous distension and dilatation of the greater part of the intestine between the stomach and the strangulation, and increasing with proximity to the latter point, to the occupation of the 9 or 12 inches of intestine nearest the occlusion, leaving the remainder nearly or quite empty.

The former condition was always associated with stercoraceous vomiting; but the latter was limited to those few cases where this symptom had not set in at the ordinary date, and where the animal had either been killed, or (as in one instance) had died of the disorder.

c. Occurrence and date of fæcal vomiting.—Varieties in the *date of accession of the vomiting* appeared to depend on several causes.

In some instances, the mere irritation of the operation seemed to produce it: but though coming on immediately, it was only after an interval of 18 or 20 hours that it acquired a fæcal character. Somewhat was also apparently due to the kind of animal selected. Generally speaking, the dog vomited much more speedily and regularly than the cat: indeed, in one or two instances, the latter animal did not reject any matters up to the time of its death.

But this difference may probably be ascribed, not so much to a peculiarity of the constitution of the dog, as to the fact, that under these circumstances he drinks eagerly and frequently, and by thus distending the stomach in all likelihood favours the occurrence of sickness, or perhaps aids the intestinal distension. In three cats no vomiting whatever occurred. One of these died on the third day, and on inspection its stomach was found tolerably distended with a distinctly fæcal fluid. Another was killed on the fourth day, and here the stomach was found empty, having an interval of empty duodenum between it and the fæcal contents above the strangulation. The third lived nearly twelve days, with a tolerable appetite and appearance, and at the end of this time was killed: here also the intestinal repletion above the stricture was moderate, but it extended nearly or quite to the stomach, and a small quantity of fæcal matter occupied the cavity of this organ.

Thus not only do these cases present us with what seems to be a rare exception in the human subject, the occurrence of complete intestinal obstruction, and its continuance or fatality, without fæcal vomiting, but two of them further establish that the return of these matters to the stomach does not necessarily imply their ejection thence.*

The date of vomiting appears to be likewise affected by the distance between the ligature and the pylorus; or by the length of intestine which the returning fluid has to traverse. But the comparative shortness of the alimentary canal in these animals renders variations in this respect so limited, and so immeasurably overpowered by differences in the quantity of fluid, that this statement can only be made with caution, especially since it seems probable that the hardened fæces present in their small intestine at the time of ligature may oppose so considerable a barrier, as to render the real distance at first somewhat less than the apparent one, and thus offer an additional element of confusion.

In the human subject, the greater length of the small intestine, and the more fluid condition of its contents, render the date of occurrence a valuable means of diagnosticating the probable situation of the stricture, and liable to little source of error save one, that introduced by the possibility of great variations in the quantity of secretions or ingesta.

The *amount of fluid* much more evidently affected the accession of this

* This analysis of the action, and its separation into two independent stages, is completed by a singular case detailed in the Trans. Patholog. Society of London, vol. i. p. 62. Here, owing to an ulcerative communication between the stomach and colon, there was fæcal vomiting without any obstruction.

symptom, chiefly because a certain amount of distension seemed necessary to the introduction of fæcal matters into the stomach. But it is possible that it may also act in another manner, and favour emesis by presenting a "point d'appui" against which the respiratory muscles may compress the stomach. The peculiarly easy character of this species of vomiting may perhaps be partially explained by the abdominal distension which it supposes.

The *rapidity with which death followed* the operation varied remarkably with the degree of distension. It rarely occurred under 48 hours: the maximum time noticed was twelve days, but in this instance the aspect of the animal when killed, and the moderate quantity of fluid contained in the bowel, affords no room to doubt that it might have lived some days longer. In one or two instances the fatal result appeared accelerated by the accidental complication of sloughing and effusion into the peritoneal cavity, followed by extensive peritonitis.

Theory of fæcal vomiting.—The following theory is, I think, fairly deducible from the preceding facts, and presents at once the most natural and consistent explanation of the phenomena in general.

When any part of the intestinal canal has its cavity obliterated by an immoveable mechanical obstacle, a movement of the ordinary character propels its contents forwards until they are arrested at the obstructed point. A continuance of the process distends this part of the canal, and gradually the dilatation extends upwards. The analogy of the intestine of the stomach, and the vague results of atmospheric stimulus, lead us to consider its normal movement as almost certainly of a peristaltic character; and if the contents of the dilated part are fluid, this peristalsis tends to develope *an axial reversed* current, which returns matters from the immediate neighbourhood of the strangulation to some higher point in the canal; and thus, if the distension have reached the upper extremity of the duodenum, a portion of fluid possessing the properties of the intestinal contents near the obstructed part occupies the immediate neighbourhood of the stomach; and a continuance of the movement introduces this fluid through the unresisting pylorus* into the cavity of that organ. Having attained the interior of the stomach, either by distension or irritation, or both combined, it provokes vomiting, and is expelled from the mouth.

But it is probable that this brief statement of the theory will require modification to render it applicable to some of the cases witnessed. For though great distension of the intestine was seen to be associated with a complete uniformity of fluid, which perhaps almost presupposes a circulation like that noticed in the stomach, yet, in many cases, the remarkable difference in the consistence of the contents at the obstructed and duodenal ends of the dilatation, would seem to lead us to the inference, that it is only by a slow process that the more solid fæces are broken down. These latter instances, however, equally exhibit a stercoraceous character of the matters vomited, and of the whole contents above the strangulation; and while they prove that uniformity of fluid is by no means necessary to the symptom, or even to the fatal result, they also appear to indicate that a sufficient duration of the action would always convert the partial mixture into a complete one. But it may be questioned how far the peripheral and central currents actually obtain, and whether we may not refer this incomplete mixture to the agitations which the contracting tube impresses on its contents, without supposing any precise direction or number of these movements.

But though in none of these cases has the fæcal obstruction appeared sufficiently hard and complete to form a secondary obstacle from which the backward current might start (as doubtless happens in those cases of disease where it constitutes the primary cause of obstruction), yet I think it preferable to bear in mind that this would be the chief tendency of an increased consistence of the contents—viz. to increase the distance from the stricture at which the more fluid portions would experience their reflection upwards, and thus to interfere with the perfection of mixture. And, on the

* The little resistance offered by the pylorus to the passage of duodenal contents has been long known; *e. g.* a little bile generally exists in the non-digesting stomach.

whole, the results are so similar in kind, and glide into each other by such insensible degrees, that they are fairly susceptible of being grouped together: the more so, that the fact of a majority of these obstructions in the human subject being situated in the small intestine, removes a like percentage of cases from the category of imperfect mixture.

And we are no longer at any loss to comprehend how an occlusion of the large intestine returns its contents into the small intestine, and causes fæcal vomiting; since the preliminary dilatation would produce a patulous state of the ilio-cæcal valve in all respects identical with that seen in the inflated and dried preparation of this part, and the peristalsis would then bring back the natural contents of the tube, and in a greater or less quantity according to the degree in which their previous consistence, the movement itself, and the fluid subsequently poured out, had together resulted in an uniform liquid state.

The degree in which peristalsis is affected by obstruction can scarcely be deduced from these observations: but taken in conjunction with the well-known phenomena in man, they indicate that it is much increased during a considerable time, and while only moderate distension is present; towards the fatal termination, and with excessive dilatation, contractile energy seems somewhat diminished, perhaps we may say exhausted.

The nature of the distending fluid is also little elucidated. One or two microscopic examinations, however, revealed immense multitudes of cytoblasts, and few or none of the ordinary columnar cells; and hence it would appear that the natural secretions are augmented by the products of an over-excited nutrition, which may be compared to inflammation.* Whether this was solely due to the mechanical irritation is doubtful. The share which the ingesta take in increasing the quantity of fluid has been already noticed; how far they affect its quality is less important.

Finally, in *comparing the occluded intestine with the stomach*, it is submitted that the following differences of conditions consistently explain those of the results:—

The former is occupied by fluid in small quantity, and the gradual accumulation of its contents corresponds with the necessary period which precedes the accession of fæcal vomiting. Its parietes possess far less muscular strength than those of the pyloric extremity of the stomach; and thence the dilatation above the stricture, instead of the unaltered shape of the stomach. The time required by the previous difference is yet further increased by this.

The length of the intestine implies an additional period of time before the repletion of the whole can assimilate its condition to that of the naturally filled stomach.

The occasional existence of solid contents in the small intestine of the animals operated on, and in the large intestine of the human subject, offers an obstacle to the production or perfection of the currents, which the ordinary fluid state of the food in human stomachs does not present.

In *comparing* the occluded intestine with *other strangulated tubes*, a consideration of their mechanism also appears to account for their various appearances.

Thus, in an obstructed artery, the distending force is from behind, and uniform fluid contents fill its cavity; and hence, if its coats be everywhere of equal strength, the partial preponderance of the force over their resistance will determine an equal dilatation of all parts of the tube.

In an obstructed *bile-duct* we approach more nearly to some of the intestinal conditions. A gradual process of filling here occurs; but the parietes, though little muscular, are tougher and more resisting than those of the intestine. And hence, though the dilatation in its earliest stages exhibits some increase immediately behind the stricture, yet in a case of long standing the whole tube and its ramifications are pretty equally distended.

In the occluded *intestine* we are presented with a highly muscular and yet extremely dilatable tube; and hence the swelling behind the obstruction is at first enormous, since the former circumstance carries matters rapidly forwards to that point, while the latter

* Great differences exist between these appearances and those of the products of idiopathic inflammation in the same tube; but they are excluded as irrelevant to the present subject.

at its utmost valuation, may not be large; but if it be true, what has hitherto been thought a symptom will assume the importance of a sign; allows of great accumulation before the parts above are implicated. The difference of calibre gradually diminishes as the upper portions successively fill, and perhaps would ultimately disappear, but that death intervenes long before such an event can happen.

The immediate result of such a theory on practical medicine, even when taken while the locality of the obstruction will be somewhat indicated by the date of its occurrence. As to the *treatment* of such cases, the theory assigns the causes which accelerate death, and the circumstances with which the greatest delay of that event is associated. It thus establishes that from the moment of perfect obstruction purgatives are poisons; it indicates the necessity of rigid abstinence from all but the most necessary food, and especially from fluids, and points out opium as the best means of alleviating pain, preventing secretion, and prolonging the doomed life.

But all this is only corroborative of what has been known and done before. The symptom has long been considered pathognomonic, and the ill effects of purgatives are fully recognised. And I am by no means certain that the presumption of situation which the date of the symptoms affords has altogether escaped observation.

The experiments adduced might have been much extended; but there are two facts which may constitute a considerable apology for what would otherwise be a reprehensible parsimony of trouble. The first is, that while, on the one hand, there was some danger of generalizing from insufficient data, on the other hand every such experiment over and above what was necessary would have been so much cruelty. The next is, that the verification and extension of all these details is unfortunately but too easy: the collected hospital cases of the next few months would afford ample grounds on which to reject or receive this theory.

But the author ventures to hope that the principle which he has sought to establish will be found substantially correct. And with respect to the doctrine of an antiperistalsis, he knows no better general expression to which this theory could be reduced than the imperishable words of Bacon, and with which he begs leave to conclude this paper. "Sunt denique idola quæ immigrarunt in animos hominum, ex perversis legibus demonstrationum, quæ idola theatri nominamus. Neque de philosophiis universalibus tantum hoc intelligimus, sed etiam de principiis et axiomatibus compluribus scientiarum; quæ ex traditione, et fide et neglectu invaluerunt."

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ANEURISM OF THE AXILLARY ARTERY—LIGATURE OF THE SUBCLAVIAN.

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George Bourne, æt. 47, a labourer from Hythe, in Kent, was sent up by Dr. George, of Sandgate, early in February last, to be under my care in St. Thomas's Hospital. He was a muscular, hale-looking man, and, with the exception of occasional slight attacks of rheumatism, had enjoyed good health. When admitted, his arm was excoriated, from the employment of an embrocation for the neuralgic pain he had been suffering from; but the true nature of the case was at once detected by Dr. George, who sent the man up for operation.

The patient first perceived a swelling in the angle between the clavicle and coracoid process about two months since, but thinks it had probably existed, unnoticed, for some time before. On admission into the hospital, a tumor, about the size of a small orange, lay beneath the great pectoral muscle, and close to the left clavicle. It possessed all the characteristic signs of a true aneurismal dilatation of the axillary artery in the first division of its course. It pulsated forcibly, but the throb could be entirely controlled, at the same time that the swelling was sensibly diminished in size, by pressure on the subclavian artery above the clavicle. The thrill was both audible, and perceptible to the touch. When recumbent, the aneurismal sac could also be felt in the axilla. The clavicle was

raised in correspondence with the size of the tumor. Pulse 60 (he had been placed under the influence of digitalis before coming to town); heart's action quiet and healthy; no evidence of any other organic disease; and all the important functions of the body were performed naturally and regularly. He was put on a low diet for a few days, preparatory to my placing a ligature on the subclavian artery.

Operation, Feb. 10th.—The patient reclined on a table, being well supported by pillows, but so as to allow the left shoulder (that of the affected side) to fall. A vertical incision was first made, to the extent of an inch and a half, along the posterior border of the sterno-mastoid muscle. The integuments over the clavicle being then drawn down, a second incision was carried freely outwards, from the lower extremity of the first as far as the anterior border of the trapezius. By this the clavicle was freely bared, and a small artery and vein which bled freely required ligatures. When the skin had been allowed to resume its natural position, I divided the dense fascia immediately above and behind the clavicle, and conducted the remainder of the operation with the handle of the scalpel, which had been sharpened for the purpose. At this stage of the manipulation, although no undue force was employed, and the cutting instrument had been thrown aside, a vein of considerable size (probably the supra-scapular, near to its termination) gave way, and poured out blood in profusion. A ligature was the only resource, and was therefore applied, at my request, by my colleague Mr. Solly, to whose prompt and able assistance I was much indebted throughout the operation. The border of the scalenus muscle was then sought for and found (nearly parallel, perhaps a little external to that of the sterno-mastoid); and the artery was at once felt pulsating upon the first rib. An attempt was first made to pass the aneurism needle from below upwards between the vein and artery, but as this was not readily effected, the direction was changed, and the needle was introduced between the lowest brachial nerve and the artery, and brought out between the latter and the vein. A strong and stout ligature of silk (of the size of small whip-cord) was carried round the artery with the needle, and readily tightened. Pulsation in the sac and artery immediately ceased, and the former became flaccid. The patient complained of loss of power and numbness of the limb, but expressed himself as relieved of the pain he had before suffered, and which arose, no doubt, from pressure on the axillary nerves.

Vespere.—Perfectly comfortable; perspires freely; pulse 72, without anything of excitement in it; no headache, nor pain in the arm; the limb, which is enveloped in flannel, is quite warm.

He passed a quiet night, sleeping at intervals; on the following morning the pulse had risen, but he continued to perspire abundantly; later in the day there was more febrile excitement, the pulse reaching 96, and being rather jerking; his diet was of course limited to slops; and towards evening the excitement had subsided spontaneously, the perspiration continuing very profuse; breathing neither laboured nor painful.

On the 12th (second day after operation) the pulse was 90, and there was an angry blush about the wound, which was tender: some purulent discharge. A dose of castor-oil was given, which acted freely; and a bread-poultice was applied over the wound and inflamed surface, and one of the sutures (of which two had been applied to keep the triangular flap in place) was removed.

On the 3rd and 4th days he improved, and the angry appearance of the wound subsided; the discharge was tinged with blood. On the fifth day he had some appetite, and was allowed beef-tea. I then fancied (for I was not sure, though others said they were) that I felt a feeble pulsation in the brachial artery. Sac pulseless, firm, and diminished in size; arm warm, occasionally painful; sensation not perfect; motion, even of fingers, very limited. The discharge more simply puriform; water dressing kept applied to the wound; but the skin-flap retained its position accurately, having united along the greater part of its lower border and at its angle. On the seventh day he was allowed a mutton chop. On the ninth and tenth days the ligatures from the two veins and the small artery came away without any bleeding. Arm free from pain, and less "numbed."

On the sixteenth day the wound was

healing, but the ligature on the artery was still firm. A small roll of plaster was placed beneath it, close to the wound, and it was then put gently on the stretch and strapped down: in this way slight traction, in a vertical direction, was kept up. On the following morning, viz. the seventeenth day, the ligature was loose in the dressings.

From this time the progress of the case continued uninterrupted. The wound gradually healed: the patient was liberated from restraint as prudence dictated. The tumor diminished in size and became more solid, and it ceased to cause him any inconvenience. When he quitted the hospital, April 18th, his general health and strength were good. The arm of the affected side was well nourished, but had not regained its natural strength. A very feeble pulse was perceptible at the wrist. I have since heard that he remains well.

Remarks.—The foregoing case was peculiarly favourable for the operation, both as regards the constitution, health, habits, and temperament of the patient, and the length of time the disease which called for it had existed. The operation was completed in rather more than a quarter of an hour, some part of which was necessarily occupied in the application of the ligatures to the smaller vessels. The external jugular vein lay close to the sterno mastoid muscle, and it was therefore readily held aside during the operation: but there were many large and tortuous veins which crossed the wound, and created some little obstruction in the earlier part of the dissection. Care was taken not to disturb the relations of the subclavian vein and brachial nervous cords, so that neither of these, nor the omo-hyoid muscle (which latter was *not* sought for), were seen. I prepared a common aneurism needle, and stout ligature; the former for its simplicity, and the latter because I think it quite as effective in producing that condition of the artery which is necessary to its obliteration, with less risk of laceration should the vessel prove not quite sound. I found it more difficult to insinuate the needle beneath the artery than, anatomically considered, I should have anticipated: I mean that the artery was bound down more firmly to the first rib than I had been led, from dissection, to expect. I experienced no difficulty in tightening the ligature without the aid of any apparatus, although the vessel necessarily lay at a considerably depth. A triangular flap was raised that I might not be cramped for room; a principle which should be acted upon freely in all operations on arteries. I did not hesitate to apply a ligature to the large vein which poured out blood so copiously, because I dreaded the admission of air (an accident which has occurred, I believe, in this very operation), and because there was no other remedy for this hæmorrhage compatible with the completion of the operation. I acknowledge I dreaded the possible consequence of this step, in the shape of phlebitis; and I watched the condition of the chest for some days with much anxiety. My fears respecting this result, as well as venous hæmorrhage, were happily not realised. The amount of traction employed for a few hours previous to the separation of the main ligature was trifling; but it probably hastened the process, and thereby saved a certain amount of irritation necessarily consequent on the presence of a foreign body in a healing wound.

Spring Gardens,
May 28, 1849.

A CASE OF
ABSENCE OF THE RECTUM AT BIRTH
OF A FEMALE INFANT OF SEVEN MONTHS; AND SUCCESSFUL OPERATION OF AN ARTIFICIAL ANUS, BY A NOVEL METHOD, BY DR. AMUSSAT, THE 4TH SEPTEMBER, 1835, PARIS, THE DAY AFTER THE BIRTH OF THE INFANT.

By Edmund Skiers, M.D.

Mrs. B—— was confined of a *7th month* female child, on the 3rd Sept. 1835, having had one child before, a daughter, by a first marriage.

It was observed, the infant, well formed and strong, did not pass the meconium; castor oil had been given, and it passed water freely only.

The nurse administered an enema of water and oil, and was surprised to find it returned by the vagina, passing out by the vulva unaltered.

Professor Déneux, who attended, sent for Blandin, who not being at home, Amussat was requested during the night to attend. Examination found two distinct natural external openings, the injection at the rectum escaping by the vagina; probes introduced in both openings met in a common cavity the vagina.

As it was 2 o'clock A.M., a tent of sponge was introduced in the anal opening, and changed for a larger one at 8 o'clock, to dilate well the anal opening; on the 4th, at 12 o'clock, a consultation was held. The anal opening now admitted the little finger, which on being turned in the cavity, its extremity passed out by the vulva round a short septum. The exploration by the straightened little finger, still in the opening of the rectum, felt a pulpy yielding mass at the bottom and lower extremity of the cavity; at the upper extremity, an irregular, soft, and peculiar feeling surface was, by Déneux, attributed to be the os tincæ of the womb. After patient, and as little painful examination as possible, it was here concluded that the two perineal openings led into one cavity, and that cavity the vagina, and the openings were separated only by a short and narrow septum, so that a large vagina had formed in the place of the rectum and a natural vagina.

The question of what form of operation should be resorted to, as this was a peculiar and unique case, two recent operations in cases of a somewhat similar deformity having been unsuccessful,—discussing on the value and the chances of the different modes of the operations already performed, Amussat, from previous mature reflection on these cases, proposed a new mode of operation. Fears were, from the hæmorrhage: this was overruled, &c., and on the consent of the parents, the operation as follows was performed by Dr. Amussat:—After having diagnosticated the position of the termination of the rectum to be where the soft pulpy yielding mass was felt by the finger in the vagina, rendered more conclusive by its feeling of distension on the efforts of the infant to evacuate by the bowels, he, whilst preparing for the operation, the infant was placed in a warm bath to calm and subdue the irritation of the parts and the system from the examinations, &c., when the infant was placed on a pillow on the table, in the position for lithotomy, and to quiet its cries and efforts, was allowed to suck the finger of the nurse, sweetened with sugar and water, cold. A transversal incision, by a short curved scalpel, of six to eight lines in length, was made below the vaginal anus, and another incision from this was directed towards the os coccygis, to give the form of a T, in the opening of which the index finger was introduced to work a passage between the vagina, the coccyx, and the sacrum. The cellular tissue which united these parts was torn and cut, and as a *guide in the operation*, a sound was introduced into the vaginal anus, to guard against the perforation of the posterior vaginal parietes. After penetrating at least full *two inches*, the extremity of the intestine was got at, and from this moment of the operation, the infant, as if instinctively, forced the bowels down, and gave more decided means of recognizing the termination of the rectum than had been obtained by the vagina; and now the pouch of the intestine was by all distinctly felt. This extremity of the intestine was seized by a double tenaculum, and gently drawn down; at the same time the feeble adhesions were broken down, and the firmer ones, towards the vagina, were cautiously cut by the scalpel, which facilitated *the traction and descent of the pouch* of the intestine, and it was soon seen at the bottom of the wound, and recognized from the meconium issuing from the puncture wounds of the tenaculum. To secure further the intestine, a double threaded curved needle was passed through the extremity of the presenting intestine, so by the hold of this double thread, and the double tenaculum, the intestine was slowly and *securely brought* down to the *surface of the external wound* of the perineum; then an opening of this intestinal pouch was made between the hold of the threads and the tenaculum, when a quantity of gas and meconium escaped, to the satisfaction of all present, and the great ease of the infant.

After cleaning the wound, the presenting intestine was seized by a twisting (torsion) spring artery forceps, and by *further gentle traction* the intestine was brought down to protrude *beyond* the wound of the skin, so that the mucous membrane of the intestine *depressed* the external wound of the

skin, to be secured there externally, to prevent infiltration and absorption of the irritating matter of the meconium, by the cut and open cellular tissue (an essential point, gained from the experiments made on animals, on seeking for the best modes of establishing an artificial anus).

The intestine being well *got out*, the mucous membrane was then *spread out* to cover well the wound of the skin, and six or eight sutures were made round the circumference of the intestine, to secure it carefully.

During the whole operation but a trifling quantity of blood flowed; an injection of warm water, as an enema, up the newly formed rectum was given immediately, and the infant was placed for a minute or two in a tepid hip bath: when dry, lint and soft linen were applied to the parts, and the infant was given to its mother to be kept warm and perfectly still.

In the course of two hours the lint was changed five or six times, and at each time it was stained considerably with meconium, and a notable quantity of blood, which oozed out from the left side of the wound Several warm water injections were given by the vagina, and up the newly-formed rectum, to refreshen the parts.

The infant was kept warm and quiet, and did well, when seen at 7 o'clock in the evening; at 11 'clock at night it had been changed often, and at each time a quantity of meconium stained the dressing; it now had a warm bath of six minutes' duration.

The breast had been often presented to her, which was at first badly and feebly taken, but now she drew the milk well, and slept after leaving the breast. It being now twelve hours after the operation, no fever nor derangement of the sutures occurred; the parts still red, seemed, though, little inclined to spread any further inflammation, and of it no progress had been made, nor was any observed on the 5th, 6th, 7th, and 8th days. On the 9th the consultation attested that—

1st. The health of the infant was good.

2nd. The excretion and expulsion of the fæcal matter was well performed, as if natural.

3rd. No febrile action nor irritability of the system.

4th. That the inflammation and redness which surrounded the vaginal anus, as the chirurgical or artificial anus had lost considerably its intensity.

5 h. That the thickness which occupied and surrounded the vaginal anus, had considerably diminished.

6th. That as all the sutures had taken and were cicatrizing well, every hope was entertained of the success of the operation.

On the 10th of September, the infant was *constipated:* she sucked well, slept well, looked well, and showed no signs of uneasiness. On the 11th, the parts are in a most satisfactory state, all the functions are performed naturally, as if no mal-conformation had existed, and as if no operation had been performed.

The sutures from the fifth day of the operation to the tenth day, either cut themselves through the tissue and fell, or were cut and removed intentionally.

The *vaginal anus* was now very much contracted, the tissue less firm, whilst the artificial anus presented a plaited bordered opening, inclined to lessen by contracting; and all around the opening was felt a ring of indurated tissue, forming a barrier to infiltration and imbibition of the fæcal matter. The 12th September, the cicatrizations are perfect, and the artificial anus seems to have greatly contracted, and is much plaited.

The 13th September, the contraction augmenting the anus, was kept open by tints of gum-elastic; these seeming to give less pain From this period the infant thrived well, and had retained fæcal matter from twenty-four to thirty-six hours, and its constipation was relieved by castor oil given by stomach.

The gum elastic bougie, of the size of the little finger, was kept in the artificial anus to prevent its contraction, as a precaution till nature would seem no further to require such means. For months afterwards the infant remained well and thriving.

The question now was—In the event of marrying, and the giving birth to an infant, how the perineum would yield? and what difficulty the accoucheur would encounter with regard to the vaginal as the artificial anus? To relieve him, it would be hoped intimation would be given of what had happened to the patient in infancy.

The selection of this mode of operation was—1st, from the possibility of drawing down the rectum full two

inches; any further descent *by force* of the rectum might be attended with rupture of vessels of the inferior mesenteric artery: 2nd, that being in the natural position, the artificial anus could be more comfortably managed by the individual. The operation of *littré*, by establishing the artificial anus at the groin, the sigmoid flexure of the colon would have given the means of a more lengthy displacement, by yielding easily to be brought a greater distance than two inches to be adapted to the surface of the abdomen; but in this case it would offer all the disgusting inconvenience of position: therefore the natural position was selected.

Again, if the artificial anus had been made, by waiting two or three more days till the distended pouch of the gut had descended to have protruded on the vagina, by the puncture at the vagina or recto-vaginal vistula would have been now established, with all the difficulties of keeping it open, as preventing ill consequence from infiltration, from the distance of its deep-seated position; besides which, the disgust of its after presence there, had success even attended the operation.

Also it was a point to have profited by the vaginal anal opening, which was posses-ed of its proper sphincter; but here, again, the objection of its selection was from the risk in the recto-vaginal fistula, and one opening more in the perineum offered no detriment to the person.

Finally, it cannot but be considered that this mode of operation is the model for practice—that is, of bringing down the gut fairly, and then fixing it externally to secure the success of the operation, because the position of the intestine, presenting as the pouch, might be only a part that is free and yielding, and being thus, might be forced down from over-distension of matter in the intestine, and yet not being the natural end, but only the side gut,—so, on supposing it to be the end, and on puncturing it simply in such a position, the gut on being emptied of its matter, and retracting back into its natural position afterwards, from not being secured the position will be found so altered, that the punctured part not being the terminus and lowest part, will give out by the side the matter of the bowels to be in contact with fresh surfaces operated through, which will be irritated to absorb the matter of the bowels, developing inflammation and abscesses, causing death—a circumstance of common occurrence after the operations for remedying the absence of an anus in infants at birth; therefore the above rule, with caution and patience in conducting these operations, will be the only chance of success. Whatever might be the modification of the case presenting, the above principle is, that whenever an artificial anus is to be made, to bring the gut fairly out to secure it externally to the skin, making it a mucous membranous opening, unless the gut is already opened in a mucous membranous opening, in which place, if eligible, it might be secured. From being deeply interested in the case, on a recent visit to Paris, seeing M. Amussat, and in conversation with him on this topic, his reply to the question was, that many operations had been performed, but all—however different and modified the case—were performed on the above principle, and he knew of nothing new to offer.

235, Oxford Street, June 1849.

A FEW REMARKS ON THE

TREATMENT OF NASAL CATARRH.

By John R. Pretty, M.R.C.S.E. L.S.A.

The fluid and dry diet has each its advocates for the cure of coryza.

The advantages of warm drinks and good nursing, are—the restoration of checked perspiration—the removal of the intropulsive effects of cold—the diminution of fever, of the acrimony of the discharge, and of the tendency the inflammation exhibits to descend to the trachea, bronchi, &c.

The disadvantages are—the confinement required, and the debility and relaxation produced, rendering the patient, who was previously in a probably enervated state, still more so, and when cured is in a condition most favourable for a return of the disease.

The dry diet imposing an almost "total abstinence from liquids," as recommended by Dr. C. J. B. Williams, has the advantages of curing the patient within "48 hours;" requires little or no alteration in the kind of food taken scarcely any nursing—cannot relax

the patient or leave him more liable to a return of the complaint.

The disadvantages are—the self-denial required; the undiminished (I think increased) acrimony of the discharge, accompanied, according to my little experience, with a greater tendency for the inflammation to descend to the chest.

A third plan of treatment has been advocated in the MEDICAL GAZETTE, June 1st, by Dr. Lockwood, U. S.—the painting with a camel-hair pencil the Schneiderian membrane with a solution of nitrate of silver. Dr. L. states that he has adopted this practice for nearly a year with immediate success when applied at the commencement of the attack.

I have for a period of two years adopted a plan of treatment more easy, and with much success, and which I imagine would be less objected to by patients—viz. the injecting the nostrils with a solution of sulphate of zinc (about gr. iij. to ℥j. of water). I order the patient to fill a 1 oz. pewter male syringe, and inject each nostril once or twice, and whilst doing so to stoop over a basin. When the injection has been used at the commencement of titillation in the nostrils, I have found it cut short the attack. If the complaint have proceeded further, I have found it better to wait for the vessel's commencing disgorgement by the discharge, for if not, the injection causes for a few seconds aching about the frontal sinuses, and does not prevent the discharge occurring. Usually injecting the nostrils once is sufficient; the discharge may, however, return, when the injection will be again required. Sometimes the nostrils in severe cases have to be injected three or four times.

When a patient complains of coryza, and is unable to get rid of it, I have found the injection stop a discharge which has existed for several days in ten minutes. In such cases, with a relaxed state of the Schneiderian membrane, the utility of the injection will be most marked; and it is exactly in these cases that the fluid plan of treatment will be found injurious.

Great susceptibility to coryza may arise from an atonic state of the vessels of the pituitary membrane, besides a relaxed state of system and increased perspiration. If under these circumstances the injection be used, this liability to nasal catarrh will be greatly removed.

The usual prophylactic treatment can at the same time be most advantageously employed—viz. curtailing the amount of fluid, not allowing any to be drunk hot: using the flesh-brush and tepid or cold bathing where admissible.

When a tendency to phthisis exists it is most important to guard against cold, for with coryza the lungs may suffer from inflammation descending from the Schneiderian membrane, or from respiration being confined to the mouth.

The nose is Nature's "respirator," and when its lining membrane is too swollen to allow of breathing through it, the air passing unwarmed to the larynx, proves an additional excitant to disease. Frequently persons with severe coryza, after having been confined to a warm room during the day, retire to a cold bed-room for the night: they cannot as usual breathe through their nostrils, and, if something be not kept over the mouth, they often awake with a sore-throat and cough. At such a time, a respirator worn at night is most useful in preventing these.

When an instrument of this kind is required, I would recommend to the notice of the profession, Mr. Rooff's Inspirator, for the easy respiration it permits, producing a warm moist atmosphere, without becoming clogged by moisture. Another advantage in its construction is the use of very fine tubes instead of wire-gauze, and a valve for preventing the expired and inspired air commingling; and thus a supply of pure air is insured.

I am surprised that coryza has not been usually treated locally as well as generally. However, as sulphate of zinc and nitrate of silver are found useful in inflamed conjunctivæ, this may be an inducement to try them when the Schneiderian membrane is similarly attacked.

109, Camden-Road Villas,
June 1849.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 6th inst.: — E. Batwell — H. Cuslahán — H. Welsh—W. M. Sedgwick—S. H. Hobart —W. Prowse—W. Garrard—R. J. Stevens —G. Evans—G. Peacocke—C. France.

MEDICAL GAZETTE.

FRIDAY, JULY 13, 1849.

Our Quarterly contemporary, the *British and Foreign Medico Chirurgical Review*, after criticising the doctrines put forth in the Quarantine Report from the General Board of Health, and adducing numerous proofs both of the *suggestio falsi* and *suppressio veri* by the authors, makes the following concluding remarks :—

"We have now finished what has been a very unpleasant task. We should have infinitely preferred awarding to the whole Report the unqualified praise which is due, and which we have rendered, to one portion of it. But we have a public duty to perform, which permits no influence of private feelings, or respect for official position, to interfere with its fulfilment. We could not pass over glaring and serious errors, leading to grave practical dangers, without pointing them out before it was too late,—without warning the Legislature from adopting suggestions made without sufficient reflection, and evidently with an imperfect knowledge of the subject of the Report.

"We do not wish to enter at present into an examination of the constitution of the Board of Health ; but the Report we have just criticised clearly proves that it must be remodelled before it can obtain or deserve the confidence of the profession or the public. Instead of one medical man and three laymen, we should say reverse the order, and let us have a lay president, with a medical committee of three or more. This is the constitution which has proved on trial to be the best for the Board of Admiralty. When this Board consisted solely of persons not educated for the navy, ignorance of naval affairs and political jobbing were its notorious characteristics. When it consisted exclusively of naval officers, the exaggerated importance given by these gentlemen to purely professional questions led to wasteful expenditure of public money and unfair promotion of personal friends. To remedy these evils, a lay president and secretary were appointed ; and with these sat a committee of six or more naval officers. In this way the necessary evils attendant both upon an exclusively lay and exclusively professional Board have been avoided in practice—the ignorance of the one, the waste of the other, being alike corrected. A similar constitution should be framed for the Board of Health. Is it not truly absurd, on the approach of a great pestilence, to find medical discussions upon the relations between diarrhœa and the first stage of cholera—upon the treatment of the collapsed stage, as distinguished from that of the premonitory diarrhœa—sent forth to the public by a non medical secretary, *by command* of two noble lords, a barrister, and but one physician? Surely this cannot be allowed ; and we do trust that before another Medical Report is issued by the Board, its medical members will be increased in number, and will take care that nothing so discreditable as the present production shall again appear."

We have ourselves made similar observations, on different occasions, upon the constitution of the Board, and the present appears to be a favourable opportunity for considering the subject rather more in detail.

We do not wish to say much of Dr. S. Smith, or Mr. Chadwick. Both, especially the latter, have done much for the cause of sanitary improvement; but at the same time they have become so wedded to, and entirely absorbed in one pursuit,—have so enthusiastic a faith in the omnipotence of stenches, and reject so uniformly and so unfairly all evidence, however positive or credibly established, which tends to controvert favourite dogmata,—that their opinions on the subject of contagious and epidemic diseases cannot be received with respect by the profession, nor can their statements as to mere matters of fact be admitted without suspicion of inaccuracy, or allowed to pass without careful examination into their truth. On these grounds it is quite plain that they cannot long continue to be the only *real* members of the General Board of Health.

The two *nominal* members, the Earl of Carlisle and Lord Ashley, can, of course, know nothing whatever of plague, cholera, or quarantine. They are both noblemen highly and deservedly respected,—honest, upright, patriotic gentlemen, a credit to their age and their order: active, able reformers of abuses in the state and the social system. To the former particularly the public look up as to one who must continue to assume a gradually increasing influence in the government and destiny of the nation: but admitting all this with sincere pleasure, we are compelled to ask.—*What are the qualifications of these noble lords for a medical appointment?* Have their education, habits, or occupation, fitted them to hold the *high position they now do in the medical profession?* By what claims are they entitled to supplant honest, able, industrious, but poor men, who were labouring in the cause of sanitary improvement before these noblemen knew the meaning of the term? Does aristocratic birth, parliamentary influence, or the possession of enormous estates, justify those to whom the people should look for example, in seizing upon every scrap of government patronage which can be obtained, upon almost the only prizes which the nation has to offer as an encouragement to those who labour year after year, through penury and adversity, battling with all the ills of life, with

"The oppressor's wrong, the proud man's contumely,
The insolence of office, and the spurns
That patient merit of the unworthy takes,"

in order to do good in their day and generation,—to make mankind healthier, happier, and better,—and this often almost without hope of reward? Are they justified, we ask, in clutching even these poor prizes, in filling already overloaded coffers with wealth superfluous to them, but sufficient to convey affluence and contentment to the home of many a deserving man? Are they justified in thus diminishing the rewards which stimulate to exertion the members of a noble but poor profession? Let Lords Carlisle and Ashley apply these questions to themselves. Let them consider whether they are not affording arguments to those who would destroy our venerable constitution, because it is administered by men who reward by preferment, aristocratic connection rather than merit. Let them examine their own amount of medical knowledge, and then say if there are not in London a hundred medical men better qualified than themselves for a director's place at the Board of Health,—who would bring more exact information to the task, would be enabled to devote more time to its fulfilment; and above all, who could not be induced by a clever secretary to subscribe their names to documents, of the subject and contents of which they are entirely ignorant; but which, like the report on Quarantine that has called forth these remarks and the strictures of our quarterly contemporary, must be as discreditable to themselves as ridiculous to the educated and thinking portion of the medical profession.

OBITUARY.

DR A. T. THOMSON.

We announce with regret the death of Dr. Anthony Todd Thomson, which took place on Tuesday, July 3rd. The deceased had been for some months an invalid, and had been compelled to resign his duties at University College to the hands of others. Dr. A. T. Thomson had acquired a good reputation from his contributions to medical literature, and had for more than seventeen years occupied the Chairs of Materia Medica and Medical Jurisprudence in University College. He was also one of the Physicians to the Hospital. In consequence of his death these offices are now vacant.

On the 10th inst., in Albemarle Street, in the 67th year of his age, Sir William Hyde Parson, M.D., F.R.S.

On the 4th inst., at Chertsey, Sir John Chapman, F.R.C.S., late of Windsor, aged 76.

LECTURES

ON THE

PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

Delivered at the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture IV.

Developement of blood-vessels in granulations; their modes of formation in the embryo: their formation in granulations and similar new productions, by outgrowths and channelling.

Healing by secondary adhesion, or union of granulations.

Healing by scabbing; its several modes, and advantages.

Process of suppuration. Relation of the pus-cells to granulation-cells and inflammatory exudation-cells, and of the liquor puris *to fibrinous blastema. Probable degeneration of other cells into pus-cells.*

Characters of scars: their contraction and gradual perfection.

With the structural developement of the granulation-cells, described in the last lecture, there coincides a chemical change which seems to be the contrary of developement; for the granulation-substance, being converted from albuminous into horny and gelatinous principles, becomes, in chemical composition, less remote than it was from the constitution of inorganic matter. At its first effusion, the reparative material has the characters of fibrine; afterwards, when in the form of granulations and of young fibro-cellular tissue, its reactions are so far altered that it presents the characters of pyine, a somewhat indefinite principle, yet an albuminous one; finally, in its perfect developement, the new formed fibro-cellular tissue is gelatinous, and the cuticle appears to be like other specimens of horny matter.

These changes are in conformity with what appears to be a general rule—namely, that structures which are engaged in energetic developement, self multiplying, the seat of active vital changes, are generally of the highest organic chemical composition; while the structures that are already perfect, and engaged in the discharges of functions such as are attended with infrequent changes of their particles, are as generally of lower composition. The much higher chemical developement (if I may so call it) of the blood than of the greater part of the tissues that are formed from it, is a general instance of this: in it albumen and fibrine predominate, and there is no gelatine; in them gelatine is abundant, and fatty matter: and both these, through their affinities to the saccharine and oily principles, approach the characters of the lower vegetable and inorganic compounds.

The granulation-substance is a good instance in point: while lowly developed, but in an active vegetative life, it is albuminous; when perfect in its developement, its perfected structures are gelatinous or horny. In this state its particles have probably a longer existence: they exchange a brief life of eminence for longevity in a lower station.

I have spoken hitherto of the developement of only those structures which form the proper material of granulations, and of the scars that remain after the healing of wounds. But, commensurately with these, bloodvessels, and perhaps, also, nerves, are formed. Of these, therefore, I will now speak.

In the last lecture I referred to the changes that ensue in the circulation of a wounded part. At first, it appears that the blood stagnates in the vessels immediately adjacent to the wound. This is evident in the wounds made in frogs' webs, and is most probable in the case of wounds in our own tissues; for else we could hardly understand the total absence of bleeding from a surface on which, as in every large wound, myriads of small vessels must be cut and lie exposed. But after a time, of various duration in the different tissues, the movement of the blood is renewed, though not to its former velocity; the vessels of the wounded parts enlarge, and they all appear more vascular. Then the material of granulations, already in part effused, accumulates, and very soon blood and bloodvessels appear in this material.

By what process are these new vessels formed? Mr. Hunter's opinion was, (and it appears still to be often entertained) that both the blood and vessels form in the granulation-substance, as they do in the germinal area of the chick; and that, subsequently, they enter into communications with the vessels and blood of the part from which the granulations spring. But it certainly is not so; although the developement of vessels is according to a method equally natural with that described by Mr. Hunter.

In embryos, we may discern three several modes according to which bloodvessels are formed—a good example of the manifold ways by which, in developement, the same end may be reached. In the first and earliest method, they are constructed around the blood-corpuscles, which being gradually developed from some of the embryo-cells, are laid-out in the plan of the earliest and simplest circulation of the blood. Thus, in the larvæ of Batrachia, as in the common tadpole, before even the walls of a heart are

formed, one sees a crowd of embryo blood-corpuscles collected where the heart is to be; and, in the substance of the out-growing external branchiæ, are looping lines of blood-corpuscles, around which as yet no walls can be discerned. It is so, also, with the blood and vessels of the warm-blooded vertebrata: the corpuscles are rapidly developed from some of the cells of the germinal area, and are laid out in the plan of the heart, and the terminal sinus, and their communicating channels. But at first it is only as a plan: the blood does not move, and is not walled-in. Then, as the heart and vessels are formed around the blood, its circulation in these simple channels is established. In this case, the vessels appear to be formed of the plasma or fluid material which lies between the cells, and gradually assumes the condition of a membrane, and is then developed into the more complex structures of the bloodvessels.

After this earliest period of embryo-life, it is probable that blood is never formed except within the vessels already constructed. It would seem as if none but the original embryo- or germ-cells could be directly transformed into blood-corpuscles; all those that are later made derive their materials through a process of gradual elaboration in lymph- or blood-vessels, to which process no resemblance can be discerned in the substance of granu ations. To increase the extent and number of vessels that must be added in adaptation to the enlargement and increasing complexity of the embryo, two methods are observed; of which the one appears chiefly appropriate to the interstitial formation of new vessels, the other, for the construction of those of superadded or out-growing parts.

For the former, one finds, in the interspaces of vessels already existing, primary cells, which enlarge and elongate, and send out branches in two or more directions,—branches sometimes so exceedingly slender, that one might take them for mere threads of embryonic fibro-cellular tissue. But they are hollow: and while some of them are directed into anastomosis with each other, others extend towards, and open with dilatations, into the vessels already formed and carrying blood. Then, these fine branches of each stellate cell becoming larger, while the main cavity of the cell, from which they issued, attenuates itself, they are altogether transformed into a network of nearly uniform calibre, and through these the blood, entering by the openings of communication with the older vessels, makes its way.

Thus the wide spaces of the network formed in the primordial circulation are subdivided into smaller meshes, and each part receives a more abundant supply of blood. Such a developement (as shown in the diagrams) may be seen in the soft gelatinous matter within the amnion of embryo-sheep, and in the tissue of the tail of the tadpole; though in this last the developement is often abortive.

But, for parts that are formed by superaddition or out-growth, another mode of developement of blood-vessels is observed; and this, I believe, is the only mode in which new blood-vessels are ever formed for granulations, or for superficial deposits of lymph, adhesions, and the like. The sketch is made from what may be seen in the growing parts of the tadpole's tail: it accords with what Spallanzani observed of the extension of vessels into the substance of the tail when being reproduced after excision. Mr. Travers and Mr. Quekett* watched the same in the new material formed for the filling up of holes made in the frog's web: the same process is indicated in the specimens illustrating the repair of similar wounds which were purchased by the College from the Museum of the late Dr. Todd, of Brighton; and there is no reason to suppose that any other method prevails for the supply of blood-vessels to any granulations, or similar new productions. For, though the process in granulations or in lymph cannot be exactly watched during life, yet every appearance after death is consistent with the belief that it is the same as I have described, and no appearances are found which would justify a suspicion that either of the other methods of developement has occurred.

The method may be termed that by *out-growth* from the vessels already formed. Suppose a line or arch of capillary vessel passing below the edge or surface of a part to which new material has been superadded. The vessel will first present a slight dilatation in one, and coincidently, or shortly after, in another point, as if its wall yielded a little near the edge or surface. The slight pouches thus formed gradually extend, as blind canals or diverticula, from the original vessel, still directing their course towards the edge or surface of the new material, and crowded with blood-corpuscles, which are pushed into them from the main stream. Still extending, they converge; they meet; the partition-wall, that is at first formed by the meeting of their closed ends, clears away, and a perfect arched tube is formed through which the blood, diverging from the main or former stream and then rejoining it, may be continuously propelled.

In this way, then, are the simplest blood-vessels of granulations and such out-growths formed. The plan on which they are arranged is made more complex by the similar out-growths of branches from adjacent arches, and their mutual anastomoses; but, to all

* On Inflammation, and the Healing Process.

appearance, the whole process is one of out-growth and developement from vessels already formed. And I beg of you to consider the wonder of such a process; how, in a day, a hundred or more of such loops of fine membranous tube—less than 1-1000th of an inch in their diameter—should be upraised, not by any mere force of pressure, though with all the regularity of the simplest mechanism, but each by a living growth and developement, as orderly and exact as that which we might trace in the part most essential to the continuance of the life. Observe, that no force so simple as even that of growth or mere assimilation can determine such a result as this: for, to achieve the construction of such an arch, it must spring with due adjustment from two determined points, and then its flanks must be commensurately raised, and these, as with mutual attraction, must approach and meet exactly in the crown. Nothing could accomplish such a result but a power determining the concurrent developement of the two out-growing vessels, in conformity with the same law as that according to which the same power actuates the germ. We admire the intellect of the engineer, who, after years of laborious thought, with all the appliances of weight and measure, and appropriate material, can begin at points wide apart, and force through the solid masses of the earth one tunnel, and can wall it in secure from external violence, and strong to bear some ponderous traffic;—and yet he does but grossly and imperfectly imitate the Divine work of living mechanism that is hourly accomplished in the bodies of the least conspicuous objects of creation—nay, even in the healing of our casual wounds and sores.

The wonder of the process is, perhaps, in some degree, enhanced by the events that will follow what may seem to be an accident. When the new vessel has begun to project, it sometimes bursts; and the diagram shows what then will happen. (I have to thank Mr. Quekett for the sketch, which he made while assisting Mr. Travers, in the examinations of which he has published the results in his work on Inflammation and the Healing Process.) The blood corpuscles that issue from the ruptured pouch or diverticulum collect in an uncertain mass within the tissue, like a mere ecchymosis; but, before long, they manifest a definite direction, and the cluster bends towards the line in which the new vessel might have formed, and thus opens into the other portion of the arch, or into some adjacent vessel. For this mode of formation from vessels, the name of *channelling* seems more appropriate than that of out-growth; for it appears certain that the blood-corpuscles here make their way in the parenchyma of the tissue, unconfined by membranous walls. That they do so in a definite and purposive manner, though their first issue from the vessel has appeared so accidental, may be due to the fact that, in the more regular developement by out-growth, the cells of the parenchyma concur with the extension of the new vessels, by clearing away from them as they approach; so that, even before the out-growth, the way for it, or for its contents (should they happen to escape), is, in some measure, determined.

The occurrence of such a process of channelling as is here indicated loses all improbability, when we remember that in insects the blood habitually flows, in a considerable and important part of its course, through sinuses, spaces, or channels without proper walls, such as are here supposed to exist only for a time. In such channels, too it seems very probable that the blood moves in part of its course through some of the softer medullary and other morbid growths: at least, in these I have often found it impossible, with the microscope, to detect even the rudiments of such vessels as could carry their great supplies of blood.

The general plan of arrangement of the blood-vessels in granulations agrees with this account of their developement by out-growth. Some of Sir A. Cooper's preparations in the Museum* of the College show how the new vessels extend from the parts on which the granulations lie, in lines directed vertically towards their surface, not often dividing, but communicating on their way by frequent transverse or irregular branches. Of these branches, some probably represent the loops or arches successively formed in the deepening layer of granulation-cells, while others must be formed by offshoots from the sides and other parts of the several arches. Near the surface of the granulations, at a very little distance below the outermost layer of the cells, the vessels communicate much more frequently, and form their loops or terminal arches—arches of junction between the outgoing and the returning streams of blood.

On the same plan are formed the vessels of the walls of abscesses lined with granulations; but here (at least in the specimens I have been able to examine) the vertical vessels are not so long, and the whole number of vessels is generally greater. I believe the vessels of granulating ulcers are always similarly arranged; so they are represented by Mr. Liston† in a common ulcer; so, also, Sir A. Cooper‡ described them in

* Museum of the College of Surgeons, Nos. 19, 20, 356.

† Medico-Chirurgical Transactions.

‡ Catalogue of the Pathological Museum of the College, vol. i. p. 110, Specimen No. 245.

granulations from an ulcerated scirrhous cancer; and I have found the same general plan in the warty ulceration of soot-cancer on the scrotum.

The structure of the new vessels formed in granulations also agrees with the described mode of development. In the earliest period of their appearance they present no indication of being formed by the fusion, or any transformation of the granulation-cells, but consist of thin membrane, in which, if it be not quite simple, nuclei or cytoblasts are imbedded. These nuclei pass through the same stages of development, by narrowing and elongation, as those I have described in the nucleated blastema; and thus they become like the pieces of flat fibre that one sees on the walls of the original vessels of the same size. Like them, also, they are arranged, some longitudinally and some transversely to the axis of the vessels, giving them, as the diagram shows, a character altogether peculiar.

Respecting the purpose of the supply of blood thus sent to granulations, one traces, in the developement of vessels, a series of facts exactly answering to those in ordinary embryonic developement. Organization makes some progress before ever blood comes to the very substance of the growing part; for the form of cells may be assumed before the granulations become vascular. But, for their continuous active growth and developement, fresh material from blood, and that brought close to them, is essential. For these the blood-vessels are formed; and their size and number appear always proportioned to the volume and rapidity of life of the granulations. No instance would show the relation of blood to an actively growing or developing part better than it is shown in one of the vascular loops of a granulation, imbedded among the crowd of living cells, and maintaining their continual mutations. Nor is it in any case plainer than in granulations, that the supply of blood in a part is proportionate to the activity of its changes, and not to its mere structural developement: the vascular loops lie imbedded in the simplest primary cells, or, when granulations degenerate, in structures of yet lower organization; and as the structures are developed, and fibro-cellular tissue formed, so the blood-vessels become less numerous, till the whole of the new material assumes the paleness and low vascularity of a common scar.

Of the developement of Nerves in granulations I know nothing: I have never been able to see any in either granulations or cicatrices. The exquisite pain sometimes produced by touching granulations would indicate the presence of nerves: but it would be more satisfactory to see them; for the force of contact, or the change that it produces, may be propagated through the largest granulations, and stimulate the nerves beneath them, as contact with the exterior of a tooth excites the nerve-filaments in its pulp. The sensibility that granulations seem to have may, therefore, be really that of the excited tissues from which they spring.

Lymphatics do not exist in granulations. Professor Schroeder van der Kolk has demonstrated them in false membranes by mercurial injections:* but, in a letter recently received he tells me that they cannot, either by these or any other means, be traced in either scars or granulations; and, he adds, "they cannot be demonstrated in the skin, even in the healthy state, except in the scrotum."

The subject of suppuration should perhaps be considered now; but I had rather defer it till I have spoken briefly of the two remaining modes of healing open wounds—those, namely, by *secondary adhesion*, and by *scabbing*.

The healing by secondary adhesion, or union of granulations, has been long and often observed; yet it has been only casually described, and having never been distinguished by a specific name, has not received that attention to which its importance in practice seems to entitle it. It occurs wherever surfaces of granulations, formed in the manner just described, well-developed, but not yet covered with cuticle, are brought into contact, and so retained at rest. As often as this happens, the cells of which the surfaces are composed adhere together; vessels passing through them form mutual communications; and the surfaces, before separate, are connected; out of the two layers of granulations, one is formed, which pursues the normal developement into fibro-cellular tissue.

In all its principal characters, therefore, the process of secondary adhesion is like that adhesion for which, to mark at once their likeness and their differences, I have suggested the term of primary. In the primary adhesion, the layer of lymph, placed between the wounded and bare surfaces, is probably formed equally from both, and being developed in the same manner as the granulations, of which I have spoken, probably receives vessels from both surfaces, and so becomes the medium through which the vessels communicate and combine the severed parts. In the process of secondary adhesion, the superficial cells on the surfaces of two layers of granulations are placed together, and receiving vessels from both combine them into one.

* Lespinasse, De Vasis Novis Pseudo-membranarum, figs. iii. iv.

Mr. Hunter had observed this process, and says of it—"granulations have the disposition to unite with one another when sound or healthy; the great intention of which is to produce the union of parts, somewhat similar to that by the first intention, although possibly not by the same means" (iii. 493). And "I have seen two granulations on the head—viz. one from the dura mater after trepanning, and the other from the scalp, unite over the bare bone which was between them so strongly in twenty-four hours, that they required some force to separate them, and when separated they bled."

In illustration of the process he put up this preparation,* which in his MS. Catalogue,† he described as "granulations under the skin in an abscess in the leg, which were opposed by others on the muscles, and which were to unite. Those under the skin only are saved and folded towards each other, to show the opposition of two granulating surfaces."

There are several circumstances in which the healing by secondary adhesion should be attempted,—such, for example, as I witnessed in a case which was lately in St. Bartholomew's. After an ordinary circular amputation of the thigh, no immediate union and no primary adhesion had taken place, and the whole interior of the stump was granulating. Had it been, as the expression is, left to granulate, or to fill up with granulations, the healing process would have occupied at least a month or five weeks more, and would have greatly exhausted the patient, already weakened by disease. But Mr. Stanley ordered the stump to be so bandaged that the opposite surfaces of granulations might be brought into close contact: they united, and in a week the healing of the stump was nearly perfected.

In all such cases—and I need not say that they are very frequent—the healing by secondary adhesion may be attempted without danger, and with manifest advantage.

Again: Mr. Hunter operated for hare-lip, and no primary adhesion of the cut surfaces ensued. He let them both granulate: then brought the granulations together, as in the common operation, and they united, and healed soundly.

Or, again: Mr. Skey, not long since, operated for fissure of the soft palate. The very edges of the wounds sloughed and retracted, and the case seemed nearly hopeless; but he kept in the sutures, and granulations sprang up from the edges of the cleft, after the separation of the sloughs: they met in the mid-space of the cleft, and coalesced, and formed a perfect scar.

* Museum of the College of Surgeons, No. 27.

† Pathological Catalogue of the Museum of the College of Surgeons, Vol. i. p. 16.

Doubtless, cases like these are of no rare occurrence: but I am induced to mention them as illustrations of a process of which the importance and utility are not generally considered, and which is rarely applied in practice.

In applying it in practice, certain conditions are essential to success; especially that —first, the granulations should be healthy, not inflamed, or profusely secreting, or degenerated, as those in sinuses commonly are; 2dly, that the contact between them should be gentle but maintained; and perhaps they should be as much as possible of equal developement and alike.

The treatment of wounds by scabbing may be regarded, as Mr. Hunter* says, as the most natural one—for it requires no art. It is the method by which one sees nearly all open wounds healed in animals; for in them, even in the warm-blooded, it is difficult to excite free suppuration from the surfaces of wounds: they quickly become coated over with a scab formed of the fluids that ooze from them and entangle dust and other foreign bodies; and under such a scab the scar is securely formed.

In general, the scabbing process is effected by some substance effused on the surface of the wound, drying there, and forming a hard and nearly impermeable layer. The edges of this substance adhere over those of the wound, so as to form for it a sort of air-tight covering, under which it heals without suppuration, and with the formation of a scar, which is more nearly like the natural parts than any scars formed in wounds that remain exposed to the air, and which does not, like them, contract, so as to produce deformity of the parts about it.

The scab may be formed of either dried blood, dried lymph and serum, or dried purulent fluid. Instances of the healing of wounds under dried blood are not rare. It is especially apt to occur in the cases of wounds in which a large flat surface is exposed, as after the removal of the mammary gland. The most remarkable case of this kind is recorded by Mr. Wardrop,†—the largest wounded surface he ever saw, remaining after the removal of a diseased breast, almost entirely healed under a crust of blood, which remained on for more than thirty days.‡ But the most common examples of healing under blood scabs are in small wounds—such as are made in bleeding, or more rarely in some compound fractures.

* Works, Vol. iii. 262.

† In his Lectures on Surgery, in the Lancet for 1832-3, Vol. ii.

‡ Mr. Henry Lee tells me that a similar case has lately occurred in his practice. An excellent instance of healing under blood-scabs is also related by Dr. Macartney (Treatise on Inflammation, p. 208.)

The excellent, though nearly obsolete, practice of laying on such wounds a pad of lint soaked in the blood, was a good imitation of the most natural process of their repair.

If a blood-scab be not formed over a wound, or if such an one have been detached after being formed, then at once a scab may be derived from the serum and lymph that ooze from the surface of the wound. Thus it is commonly with wounds in animals that are left to themselves, and in many small wide-open wounds in our own case. Thus, also, I imagine, the best healing of burns and scabs is effected, when the exposed surface is covered with cotton-wool or other substance, which, as the oozing fluids become entangled with it, may help them to form a scab.

At a yet later period, the pus produced from exposed granulating wounds may concrete on them, and they will heal under it excluded from the air. Such a process may also ensue in the healing of ulcers, and has been successfully imitated in Mr. Stafford's plan of filling deep ulcers with wax*. In any case the healing process is probably just the same as that under scabs of blood or serum; but, I believe, it has not yet been exactly determined what are the changes that ensue in the surface beneath the scab. So far as one can discern with the naked eye, the wounded surface forms only a thin layer of cuticle on itself; no granulations, no new cellular tissue, appears to be formed; the raw surface merely skins over, and it seems to do so uniformly, not by the progressive formation of cuticle from the circumference towards the centre, as is usual in open wounds.

The healing of a wound by scabbing has always been thought a desirable process; and when one sees how quickly, by means of this process, wounds in animals are healed, and with how little general disturbance, one may well wish that it could be systematically adopted. But to this there seems some hindrance. Many surgeons have felt, as Mr. Hunter did, that the scabbing process should be permitted much oftener than it is, in the cases of both wounds and ulcers; but none have been able to lay down sufficient rules for the choice of the cases in which to permit it. Probably, the reason of this is that, at the best, in the human subject, the healing by scabbing is an uncertain process. When the scab is once formed, and the wound covered-in, it is necessary that no morbid exudation should take place. Whenever, therefore, inflammation ensues in a wound or sore covered with a scab, (and this, I need hardly say, is a very common event) the effused fluid, collecting under the scab, produces pain, compresses the wounded surface, or forces off the scab, with great discomfort to the patient and retardation of the healing. I suspect that the many instances of disappointment from this cause have led to the general neglect of the process of scabbing in the treatment of wounds. The observance of perfect rest, and of the other means for warding off inflammation, might, however, yet make it an available auxiliary in the treatment of wounds, especially of large superficial ones; for, in the treatment of small wounds, collodium appears sufficient to accomplish all that scabbing would do.

Such are the several methods of healing observed after wounds of soft parts;* and in connection with them, two subjects remain to be considered, namely, the process of suppuration, and that of the perfecting of scars.

Respecting the process of suppuration, it cannot be necessary that I should give a particular account of pus, or of its general or chemical characters. I will rather endeavour to show its relations to the healing process, by illustrating the points of resemblance and of difference between it and the material of which granulations are formed.

Let me remind you that the formation of granulations is not necessarily attended with the production of pus. I have already referred to this fact in speaking of the formation of subcutaneous granulations, such as are sometimes seen on the ends of bones that do not unite, in the ordinary way, after simple fractures. Mr. Hunter also expressly describes these cases; and the same kind of granulations with ut suppuration may be sometimes seen springing from the ulcerated articular surfaces of bones, in cases of diseased joint without any external opening.

It would be an interesting fact if it were found that the granulations that do not suppurate are those that are formed of nucleated blastema: they are so in some cases, I know; but it is not proved of all. However, the common instances of suppurating granulations are those that are formed of nucleated cells; and with these pus may be formed, whether on an open surface, or on the walls of an abscess, or on the walls of an inflamed serous cavity, when, as in empyema, the lymph acquires a free granulated surface.

To illustrate the relations between pus and granulations, at least so far as their component cells are concerned, this diagram may serve, which was copied from sketches that I made, at the same time, of some granu-

* On the Treatment of the Deep and Excavated Ulcer. 1829.

* I have not been able to recognize what Dr. Macartney has named the *modelling process*, as a method of healing distinct from that which ensues in the most favourable instances of healing by granulations. I have, therefore, not enumerated it among the modes of healing; yet it may occur in some conditions that I have not met with: I would not, with only my present experience, impute confusion to so good and independent an observer as Dr. Macartney.

lation-cells from the walls of a sinus, and some pus-cells from a healthily granulating wound. I chose these sources purposely, that I might be able to compare ill-developed granulation-cells with well-constructed pus-cells: and a comparison of them shows that, whether as seen without addition, or as changed by the action of water and acetic acid, they are not to be distinguished from one another. Had I not seen the vessels in the tissue that these granulation-cells formed, I might, in the first examination, have almost thought I was deceived in thinking they were not pus-cells. Six varieties of the appearances of the cells from each source are here shown, and they severally exactly correspond. Other varieties of form might have been drawn from both sources; but these may suffice to show the apparent identity of structure between well formed pus-cells and the ill-developed or degenerate granulation-cells, such as are found in the walls of sinuses and the like half-morbid structures. I do not mean to say generally that granulation-cells and pus-cells cannot be distinguished; for between well-formed granulation-cells, such as are found in healing wounds, and any particles that can be found in pus, certain distinctions are almost always manifest. The pus-cells are darker, more and more darkly granular, more various in size, and more various, not in shape, but in apparent structure, more often containing particles like fatty molecules, more rarely showing a nucleus when neither water nor acid is added, and much more commonly showing a tripartite or ill-formed nucleus under the action of the acid: above all, not showing any molecular movement of their contained particles when they are distended with water. This last character, of which I was informed by Mr. Quekett, is certainly the best for the determination of pus-cells, however formed. I am not sure that it ever fails to be a sufficient mark of diagnosis for them; still, neither it nor all the rest of the characters I have enumerated are indicative of essential difference; and between even the widest extremes there are all possible gradations, till distinction is impossible; so that when you place, as I have often done, ill-developed or degenerate granulation-cells on one side of the microscope-field, and pus-cells on the other, there is not a form of corpuscle on the one which is not repeated on the other.

From this, one cannot but draw the conclusion that the cells of pus are ill-developed or degenerate granulation-cells. Some of them may be degenerate, *i. e.* they may have been, as granulation-cells, attached for a time to the surface of the granulation-layer, and, having been to a certain point properly developed, and having lived their time, may, in ordinary course, have been detached and shed, as epithelial cells continually are from healthy surfaces. They may be thus detached after more or less degeneration, and hence may result some of the modifications of form that they present; but some also, I imagine (at least in the healing of wounds), may be ill-developed, —that is, imperfectly formed of the material which exudes from the surface of the granulations, and which, being exposed to the air, or being too remote from the supply of blood, cannot attain its due developement, and, in an imperfectly developed state, is soon cast off. It cannot but be that organizable matter is constantly oozing from such a surface as that of granulations; but the conditions into which it enters on that surface are such as are very likely to hinder any but the lowest and an imperfect organization.

The many characters of degeneracy that pus-cells show accord with this view; such as the general imperfection of their nuclei, —the abundance of large and fatty-looking granules in them,—the large quantity of fatty matter that chemical analysis detects, —and their limitation to certain forms, beyond which they are never found developed, though none of these forms is more highly organized than that of the youngest or most rudimental granulation-cell.

A further confirmation of the opinion that pus-cells are ill-developed or degenerate granulation-cells, is furnished in the numerous cases in which pus-cells are produced after, or together with, inflammatory exudation-cells; as in abscesses, inflammation of serous membranes, and the like. Now exudation-cells are not distinguishable in apparent structure from granulation-cells, and, like these, may show every gradation of form to that of the pus cell; so that, from both cases, we may conclude that the true relation which the cell in granulations or in inflammatory lymph holds to the pus-cell, is that of a well-organized structure to the same structure either ill-developed or degenerate after having, up to a certain point, been duly formed. To this we are guided by the comparison of the granulation-cell, in its earliest and most imperfect state, with the pus-cell in its best condition; and the contrast becomes the stronger while we trace the one, in its vigorous life, developing itself into new and higher structures,— the other, in its decay, degenerating to lower forms and lower chemical composition.*

* Valentin, Gerber, and many others have held nearly the same view as this of the character of pus-cells; but I think they have not sufficiently, if at all, dwelt on the probability that some pus-cells are ill-developed, others degenerate from a previously higher developement. The many varieties of form, and the many differences of the conditions in which they occur, may be thus explained. I think, too, that the characters of degeneracy, or imperfect developement in the liquor puris, have been too much overlooked.

But it is not only in the cells that we may trace this appearance of the degeneracy of pus: it is equally shown in the fluid part, or *liquor puris*, which, unlike the solid fibrinous intercellular substance of granulations and inflammatory lymph, is always albuminous, and incapable of organization, even when, by evaporation or partial absorption, it assumes the solid form.

Now this liquor puris answers to the solid and organizable blastema of granulations; and as undue liquidity is among the most decided marks of ill-formed pus, so the abundance of the blastema, in proportion to the cells, is one of the best signs that granulations are capable of quick developement.

An observation, which any one may easily make, seems to indicate that the liquor puris may be the product of the degeneration and liquefaction of the solid blastema, as the pus-cells appear to be of the granulation- or exudation-cells imbedded in it. If the formation of abscesses be watched, one may see, on one day, a large solid and inflamed swelling, firm and almost unyielding, giving no indication of containing any collection of fluid; but next day, one may detect in the same swelling the signs of suppuration: the border may feel as firm as before, but all the centre and the surface may be occupied with an ounce or more of matter. And observe,—this change from the solid to the liquid state may have ensued without any increase of the swelling. Such an increase must have occurred had the pus been secreted in a fluid state into the centre of the solid mass: and the changes cannot, I think, be explained except on the admission, that the inflammatory product, which was effused and infiltrated through the tissue in a solid form, has been liquefied: its exudation-cells degenerating into pus-cells, its blastema into liquor puris.*

Such, briefly, is the account which may be rendered of pus in its relation to the granulating process; nor can I find any facts which are inconsistent with this view. I will only add a suspicion that other rudimental forms of tissues may, in degeneration, sometimes assume the characters of pus-cells. The easy transition from some forms of mucus-cells to pus-cells would imply that much of the pus so readily secreted from inflamed mucous membranes is formed, not of degenerate lymph, but of their natural products, degenerated or ill-developed. And the equally indefinite line of distinction between the white or rudimental corpuscles of the blood and the pus-cells, may suggest that that most obscure affection, purulent diathesis or pyæmia, may have its essential anatomical character in the degeneration of the white blood-corpuscles. The arrested developement of these blood-corpuscles appears to be a constant occurrence in all inflammations; if to this were added a degeneration of them after the arrest, I believe the suppuration of the blood would be, so far as its anatomical characters are concerned, accomplished.

Can we assign any use or purpose to the process of suppuration? In the case of abscesses and acute inflammations we may discern no more of purpose than in any other disease. But in the case of granulating wounds, the use commonly assigned to pus, that it serves as a protection to the granulations, is probably ascribed to it with reason. It does this even in the fluid state; but the devices of surgical treatment, having regard to present comfort, rarely let us see how much better it protects a wounded surface when, as in animals, it is allowed to dry into a scab.

Let us now consider the case of a wound completely healed, and the scar that occupies its place.

It is hard to describe in general terms the characters of scars, varying as they do in accordance with the peculiar positions, and forms, and modes of healing of wounds. But two things may be constantly observed in them: namely, their contraction and their gradual perfecting of their tissues.

A process of contraction is always associated with the developement of granulations. Mr. Hunter has minutely described it, and preserved several specimens to illustrate it: among which are two stumps,* in which its occurrence is proved by the small size of the scars in comparison with that of the granulating surfaces which existed before them. This healing of stumps, especially after circular amputations, will always show the contraction of the granulations, even before the cicatrix is formed; for one sees the healthy skin drawn in and puckered over the end of the stump, before any cuticle is formed on the granulations, except perhaps on the very margin. And many injuries, but especially burns, show the contraction of the scar continuing long after the apparent healing is completed.

To what may we ascribe this contraction of both the granulations and the scars? It has been regarded as the result of some vital power of contraction; and possibly it may be so in some measure. Yet, on the

* Such a liquefaction is not that assumed in the older doctrines, which held that pus was partly formed of the dissolved materials of the original tissues. The orginal tissues doubtless remain, unless partially absorbed: yet there appears to be thus much of liquefaction in the formation of an abscess, that the inflammatory product, first formed as a soft solid, degenerates and becomes fluid.

* Nos. 28 and 29 in the Museum of the College.

whole, it seems rather to be the necessary mechanical effect of the changes of form and construction that the parts undergo. The same change ensues in the organization of all inflammatory products: as, *e. g.*, in false membranes, indurations, thickenings of parts, and the like consequences of the effusion and organization of lymph.

Now, in all these cases, the form of the cell, while developing itself into a filament, is so changed that it will occupy less space. The whole mass, too, of the developing cells becomes more closely packed, and the tissue that they form becomes much drier; with this, also, there is much diminution of vascularity. Thus, there results a considerable decrease of bulk in the new tissue as it developes itself; and this decrease, beginning with the developement of the granulation-cells, continues, and I think sufficiently accounts for the contraction, without referring to any vital power.

The force with which the contraction is accomplished is often enormous. One sees its result in the horrible deformities that follow the healing of severe burns; and I have here a specimen, in which I have no doubt, that, as in one described by Mr. Curling, deep scarred and seamed depression of the outer table of the skull was caused by the contraction of granulations over it.

The improvement and perfecting of the tissue of the scar is, again, a very slow process. It is often thought remarkable, that nerves and some of the higher tissues should require so long time for their repair; but scarcely less is necessary for the perfecting of a common scar. The principal changes by which it is accomplished include the removal of all the rudimental textures, the formation of elastic tissue, the improvement of the fibrous or fibro-cellular tissue, and of the new cuticle, till they are almost exactly like those of natural formation, and the gradual loosening of the scar, so that it may move easily on the adjacent parts.

All these changes are very slowly accomplished. One sees their effects, it may be, only after the many years in which, as it is said, the scars of childhood gradually wear out; *i. e.*, in which the new formed tissues gradually acquire the exact similitude of the old ones. Thus, the remains of the rudimental cellular tissue, imperfectly developed, may be found in apparently healthy scars of ten months' duration. After second operations, in which the scar of some former wound was removed, I have still found imperfectly developed granulation-cells in the tissue of the scar. Elastic tissue, also, I think, is not commonly formed in the first construction of a scar, but appears in it sometimes as much as twelve months after its first formation, and then gives it the common structure of the mixed fibro-cellular and elastic tissues which exist in the cutis.

But, an occurrence which may appear more singular than this is, in all good scars, as they are called, that gradual loosening of the tissue that at first unites the scar to all the adjacent parts. Thus, in such a wound as is made for tying a deep artery, or in lithotomy, at first, the new tissue, the tissue of the scar, extends down to the bottom of the wound, equally dense in all parts, and fastening the skin to the parts at the very deepest portion of the wound. But after a time this clears up. The tissue of the scar in the skin becomes more compact and more elastic; but that beneath it becomes looser and more like natural cellular tissue; and the morbid adhesions of one part to another are freed.

Now, in all this we may trace, I think, a visible illustration of the recovery from the minute changes of disease, —I mean, in this gradual return of tissues to the healthy state, — in the gradual approach of the new particles that are successively produced to a nearer conformity with the specific character of the parts they should replace, till repair becomes almost reproduction. And how can all this be reconciled with any theory of assimilation? How could assimilation alter the characters of a scar? or make one part of it assume one character, and another part a character quite different? so that, at length, that which looked homogeneous as a mass of new-formed tissue, acquires, in separate parts, the characters of the several tissues in whose place it lies, and whose office it is destined, though defectively, to discharge.

Reviews.

Pathologia Indica; or, The Anatomy of Indian Diseases. By Allan Webb, B.M.S., Professor of Anatomy in the Calcutta Medical College. 2d Edition. 8vo. Calcutta: 1848.

The present volume is the second edition of a work which first appeared in 1846. It gained at that time the general approbation of the profession, which in its present shape it still more fully merits. It professes to be an account of the diseases of India; and, so far as it goes, it is a large and valuable contribution towards that object. It is no doubt true that none of the subjects handled in it have been fully exhausted, and in all there are important gaps which yet remain to be filled up, while there are certain classes of

ailments,—those of the nervous system, for instance,—which have not been touched upon at all. But objections of this nature cannot in fairness be pressed against the author, when we consider the vastness of the undertaking and the comparatively short time during which he has been at work upon it. Judging from what has been already accomplished, it may be fairly expected that the author will be able, in the course of a few years, to render the present outline more complete than it now is,—a task to which he brings much learning and industry, together with excellent opportunities for observation.

The materials on which the work is based are furnished by the museum of the Royal Medical College of Calcutta. This museum, of which the collection of the Medical and Physical Society of Calcutta formed the nucleus, has flourished under the fostering care of the Hon. East India Company, and now contains more than 2000 preparations illustrative of healthy and morbid, and comparative anatomy. One main object of the museum is thus stated in a letter from the Council of Education to the Medical Board:—"As the great pathological museum at Fort Pitt has been chiefly formed by contributions from the Royal Medical Officers serving in every quarter of the globe, so it is deemed possible by the Council to obtain from the civil and military hospitals of India a similar collection illustrating the diseases of this country, and preserving remarkable surgical and other cases which are worthy of record, or capable of throwing light on the pathology of tropical diseases,—and of affording instruction to those who will have here often to treat them." One can easily imagine the satisfaction of the young medical officer, on first arriving at Calcutta, to find open for his inspection and study this great storehouse of preparations, representing, as it soon will do, the chief facts connected with Indian diseases. He will there quickly grasp the salient points in which these are wont to differ from those formerly observed in European schools, and the impressions thus gained will be both more accurate and confidence-giving than any derived from books alone.

The "Pathologia Indica" comprises two divisions, in which are treated the pathology of the blood, the heart and blood-vessels, lungs, liver, spleen, kidneys and urinary apparatus, and generation. The arrangement usually followed is, first to give a catalogue of the preparations in the museum included under each head; next, ample details of many of the cases from which the preparations were taken, with other cases bearing on the same subject; and, lastly, to append those remarks, historical, physiological, and practical, which the subject seemed to require.

Professor Webb notices the rapidity with which fatal diseases generally run their course within the tropics,—a fact which he considers due to the frequent death or disorganization of the blood-corpuscles: indeed, the tendency of an acquaintance with the diseases of India is to uphold the doctrine of the humoral school.

"In the majority of the most fatal diseases of India, morbid anatomy, if restricted to the solids, would not explain anything adequately. If we take some of the most common, and most rapidly fatal diseases, and carefully investigate their nature through the medium of their morbid anatomy—take rapidly fatal fever, that destroys in twelve hours—take cholera, that destroys in six or seven hours—take land or sea scurvy, in which, without pain or sickness, patients occasionally drop down dead; lastly, take coup-de-soleil—or take delirium tremens, most carefully scrutinize the morbid appearances,—nothing in the solids of the body presents itself which you can regard as essential to such diseases, yet they all strongly resemble each other in these two characteristic features—enormous congestion of blood, and the fluid condition or altered nature of the blood. Every other feature may vary in every one of them, but the alteration in the blood is invariably found." (p. 17.)

The work before us contains ample evidence that the opinion generally held in this country respecting the rarity of diseases of the heart and blood-vessels in India, is quite erroneous. Prof. Webb believes carditis to be more frequent there than in England; while aneurisms and other diseases of the blood-vessels are very common also. We think, however, that he has not succeeded in his effort to root out "the fashion of denying that organized polypi or masses of fibrin can be produced in the heart." We believe that his views are here deficient in clearness and accuracy, apparently from his not having distinguished the

very different nature and origin of these "masses." That exudations of lymph on the lining membrane of the heart may become organized and grow into excrescences of various forms, is not denied; but that *caco plastic materials* derived from tuberculous or inflamed parts at a distance, and deposited from the blood in the heart, ever become organized, is opposed to the opinion of the soundest pathologists. To this class we conceive that the case related at page 69 belonged. The same remark applies even more decidedly to the firm gelatinous clot or common polypus of the heart. Of the three distinct kinds of "fibrinous masses or polypi" mentioned by Professor Webb, fibrinous exudations alone become organized.

There are other errors respecting Indian pathology current in Europe which the preparations of the Calcutta Museum and the memoirs belonging to them will soon dissipate. Thus it is clearly shown that phthisis prevails in all parts of India, and among all classes. The Professor states his "conviction that Bengal is most fatally inimical" both to phthisis and scrofula in general. With regard to the comparative frequency of these diseases in India, his opinion does not correspond to that usually held in this country: phthisis he believes to be the more common, scrofula the rarer of the two. Scrofulous deposits, he remarks, occur comparatively seldom in the cervical glands, and most commonly in the lungs and osseous structures. It would appear that in children "the tuberculous matter is often carried off by the bowels, producing a peculiarly inveterate form of dysentery" (p. 128). At a later period of life the same salutary result is sometimes produced by certain eruptions attended with a discharge.

A sketch of the opinions on *Cholera* held by a Calcutta Professor of eminence, who in his professional capacity has traversed India in all directions, "from Cape Comorin to the Himalaya, from the Sutlej to the Barampooter," will not be devoid of interest at the present time. Prof. Webb, like many others, does not consider cholera to be a disease of recent origin. He cites various authorities, both Asiatic and European, from which he argues, and indeed makes out a fair case, that the disease was known, at least in a sporadic form, in ancient Greece, China, and India. None here believe, he says, in the contagious nature of unmixed cholera. When, however, it is attended with eruptions, it then becomes contagious, like measles or scarlatina.

Professor Webb believes cholera to be a functional disease of the blood, closely allied, on the one hand, to typhus fever and plague, into which it passes by degrees so imperceptible that many cases seem equally to pertain to both. This happens more especially when the disease is sporadic, and before it has had time to assume an epidemic character. On the other hand, cholera passes into colic and choleroid fever, or the sweating sickness of India. All these diseases may arise from the same exciting cause; namely, exposure to malaria or impure air. But of all the causes of cholera, an atmosphere impregnated with sulphuretted hydrogen is the most potent; and he traces most of the symptoms observed in cholera to the action of this agent in checking or destroying the endosmotic function of the blood-globules. India, he observes, abounds in districts where this gas issues spontaneously from the ground; as at Sirhind, Rajpootanah, Marwar, Scinde, Kurnaul, Sukkur, &c. If this "functional disturbance" in the action of the blood globules pass into disorganization, fevers or eruptions arise to complicate the disease, and it becomes contagious. We shall only remark, with respect to this hypothesis, that there are many places in the tropics where sulphuretted hydrogen abounds in the atmosphere, but cholera is unknown. If Professor Webb's view be correct, the disease ought to be endemic on the western coast of Africa, and in the delta of the Mississipi.

A curious Indian superstition illustrates the "malarious" origin of the hill colic or choleroid colic of the Himalaya.

"The peculiar character of Hill Colic is, however, the excruciating pain in the abdomen, sometimes so severe that the patient is not conscious of any thing else, and one agonizing shriek follows another till the strength is exhausted, and low moans express his last sufferings. The prevailing belief among the PUHARREES in the hills is, that it is a demoniac seizure, and that the evil spirit springs suddenly upon the unwary from dark thickets, and shady fountains and water-courses especially. These last are full of decayed leaves and putrid water. (It

is worthy of remark, in reference to my opinion of its malarious origin, that men in perfect health who go to these water-courses, as to necessaries, come back asphyxied with colic.) Nearly all cases with them are fatal; their treatment being to get five or six strong lusty fellows to shake out the devil, and frighten him by loud cries." (p. 41.)

Among the diagnostic signs of choleroid fever there is one which wil be fully appreciated by those only who have some practical acquaintance with the jungle. Thus we are told that the smell of the perspiration is "like that perceived on skinning a tiger after a hot day."

The author reports two cases of cholera, "exhibiting the worst type of this deadly disease," in which chloroform was administered by inhalation during the stage of collapse. The result was highly encouraging, and corroborates the favourable opinion which many who have employed it in this country have formed of it.

Professor Webb's Theory of Cholera, and the practice required for it, are thus summed up by himself: "Cholera consists in general loss of the endosmotic faculty of the blood vesicles, and of the membranes and tissues, and consequent filtration outwards. Endosmosis ceasing, all vital operations, depending upon endosmosis, cease also. Ergo, the practice is,—restore the normal state to the blood-membranes and tissues, and restrain, by opium, the mechanical filtration outwards."

As might be expected, preparations illustrative of abscess of the *liver* abound in an Indian museum. Judging from the number of specimens sent to him, Professor Webb considers this complaint to be the most common structural disease of the country, with the exception of dysentery. The main point in the treatment is to bleed early and copiously; and, if suppuration ensue, to open the abscess as soon as it has given distinct indication of its presence. The success of the operation will of course greatly depend on whether there be several abscesses or one only; and it is so far encouraging to the operator that, according to a table drawn up by Dr. Geddes, the abscess was solitary in 21 out of 28 cases. One good reason for delay where symptoms are not urgent is, that in cases where the pus has been at first collected in many cavities, it may at length, by the breaking down or absorption of the intervening parenchyma, coalesce into a single abscess. Another reason is that the abscess, when it is entirely chronic, has a better chance of becoming surrounded by a cyst, and of being thereby completely separated from the proper substance of the liver. Many of the preparations in the museum prove the curability of abscess of the liver, without operation, by means of spontaneous absorption. From the fact that the occasional subsidence of tumors of this nature coincides with the sudden and unexpected appearance of pus in the urine, which, after a short interval, entirely ceases, Professor Webb believes, as others have done before him, that the abscess is emptied through the kidneys.

Although the liver be so liable to abscess, Professor Webb has never observed it to be the seat of *cancerous* deposit, even where the diathesis was strongly marked in other organs. Cirrhosis is common, both among Indians and Europeans, as well as another form of cellular degeneration in which the liver is converted into a mere sponge like mass, consisting chiefly of Glisson's capsule, without a trace of granular structure." This change is represented to be so common that "few livers are entirely free from it, and it seems always to be accompanied with indications of inflammatory action." Besides these, Glisson's capsule is liable to another form of structural lesion,—*ramollissement*,—in which it is sometimes so soft as to be dissolved or washed away when a powerful stream of water is directed upon it. The liver in these cases is usually enlarged, and the "lobules appear all isolated, hanging like young currants to a stalk." The disease is not the effect of inflammation, but of a kind of low typhoid fever: it is a cachectic hypertrophy. Mercury is most mischievous in this complaint. On the other hand, Dr. Kinloch Kirk and the author have found lime-juice to be of the greatest service.

Professor Webb gives a long and learned "Historical Notice of Operations for opening Liver-abscess," into which we shall not follow him; neither shall we enter upon the lengthy digressions on the elements of physiology

with which the work abounds. But we must add that, although these matters swell out the book and would hardly be approved of in this country, they are, perhaps, very necessary in a work written expressly for practitioners in India, who cannot carry about with them many books of reference, and where libraries are wanting. A work like the present must be written so as to contain, as far as possible, all the collateral knowledge required for its own illustration. Professor Webb assures us that, in all his travels, he never saw a medical library out of Calcutta!

Diseases of the *spleen* are exceedingly common in India, and are the frequent occasion of "invaliding." Sometimes whole regiments are for a time disabled by them. Professor Webb examines, at great length, the various theories respecting the function of the spleen, and agrees with those who consider it to be the preparation of the red globules of the blood: accordingly he explains the scurvy, which so commonly accompanies lesions of this organ, by simply referring it to disturbance of that function. Splenic scurvy, he observes,—

"Is a true scorbutus, consequent upon the loss of function in the spleen; and consists in disease and diminution of the blood. It shews itself in a variety of horrible ulcerations, sloughings, and hæmorrhages, in whatever part it be most defective, in this main source of all life, and of all living structure,—the blood. Now if the spleen be as intimately concerned in forming red blood, as I have with much labour endeavoured to prove that it is, we have only to stop its functions, and we shall then produce scurvy. Thus, scurvy is induced by disease of the formative organs of the blood-globules, as effectually as it can be, by withholding the material from which blood is formed,—by feeding the animal man upon putrid meat and bad grain, and washing down such a *pabulum vitæ* with stinking stagnant water. In either case the blood is not renewed: the body, therefore, feeds upon itself. Even on land (as in Arracan and China, for instance), this has been found to answer exceedingly well, with the addition of hard labour, in producing scurvy: indeed, quite as well as if the said animal be kept at sea, in a sloppy, leaky ship's hold, without other food than salt meat and rotten biscuit." (p. 176.)

That part of the work which treats of the pathology of *generation* is extremely interesting, and contains many curious particulars respecting the customs and superstitions of India. Professor Webb's experience leads him to agree with Mr Roberton, of Manchester, in his opinion that there is less difference in the age at which menstruation begins in various countries, than has been usually supposed. Thus, out of 127 Hindoo females, menstruation began in six only under twelve years of age; and, "as many of them did not menstruate again until a year after this, which they believed a first appearance, it is probable, as suggested by Babu Modusuden Gupto, that a ruptured hymen would better account for that." The remaining eighty-one menstruated at twelve years or upwards. The Professor observes:—

"I have not found that East Indian girls, and European-bred girls born in India, menstruate earlier than in Europe; and I have had for nearly three years a wide field of observation in the hospitals of the Government Orphan School (under my charge), in which there are rarely less than 200 girls. It is not common for menstruation among them to begin until fourteen. The fact of a first menstruation is always reported to the head mistress, who has never known one single instance of its occurrence before the age of thirteen. Very often it is delayed till sixteen, seventeen, or eighteen. There is no difference in this respect between European, European-bred girls, and East Indian. Between thirteen and fourteen it is most common. It follows, therefore, that climate has less to do with this function than has been supposed, especially when we add that instances occur in Bengal of native women having children at fifty and sixty. Twins were born as late in life as fifty-eight years in one instance, and sixty-five in another: in the last case, however, the mother died." (p. 261.)

Did our limits permit, much more that is interesting and instructive might be drawn from this book. The author has grappled with a difficult subject, and we must admit that he has done so with considerable success. We will add that, although there may be many voids which must be filled up before the "Pathologia Indica" can be considered as complete, we know of no practitioner in India better qualified for the task than Professor Webb.

Correspondence.

REMARKS ON THE ANNUAL ORATION AT THE ROYAL COLLEGE OF PHYSICIANS.—PROFESSIONAL AND UNPROFESSIONAL DEALINGS. BY ROBERT HULL, M.D.

THIS oration can never fail to interest the medical public. That which was delivered by Dr. Francis Hawkins indicates a cordial desire to sustain professional harmony and the dignity of medicine. How far these are now compromised in London I cannot say; but, alas! *extra urbem* they are seriously infracted, and sentiments purely commercial prevail among the physicians in the provinces.

Thirty years ago there pervaded the entire medical corps of England a common anxiety to do nothing "unprofessional." But now the very term is openly repudiated, or its applicability to particular misdemeanors is disputed, or a definition of the term coarsely demanded. Then everybody, from the court physician to the humble apothecary, *felt* what it implied, and acted with constant respect for their common profession.

The metropolitan physicians have, with some marked exceptions, given an example of *professional* bearing. These exceptions appear more numerous of late, it cannot be denied,—but still the high-minded predominate in number; and it would be well if many of the graduate members of our profession, practising in the provinces, would follow in the wake of these irreproachable men.

If it be difficult to define the term "professional" to men who affect not to understand it, indirectly it may be explained. It is opposed to *commercial*.

A spirit of servility has crept into the ranks, and depreciated the calling of the provincial physicians. This is displayed in the style of their appeals to the laity, when office is coveted. These amount to begging—nay, they almost come within the scope of the mendicity societies. "It would be the happiest day of my life, if you elect me," says one candidate. "It would be the proudest," says another: as if these arguments were at all to the purpose, and it signified one straw to hospital-governors whether Dr. P. were proud, or Dr. G. happy. Where, at all events, was the *professional* pride, when such sycophantic addresses were penned? Yet—

Sapienter vitam instituit namque hoc tempore
Obsequium amicos parit.

When a vacancy occurs in a medical institution, instead of a simple statement of qualifications, the governors are annoyed with folios of certificates from professors and practitioners, who are quite as ready to give the same to Dr. H. or Dr. P.

Is this *professional*, when we see the same system of voluminous certificates in favour of bakers of unfermented bread, brewers of medicinal beer, butchers, grocers, chandlers?

Nay, I have known testimonials circulated when there was not a vacancy, but "lest there should be by-and-bye." Is this *professional*? Nothing, doubtless, is more desirable for a needy physician than an advertisement; nothing requiring more tact than to manage one with dignity, and with fairness towards others. Doubtless, Dr. P. will be very useful to society if he can emerge from obscurity; but let him, as he values the *professional*, remember that other men equally *necessary* are loudly advertising with a "Wha wants *me*?"

I have heard of a physician who calls on *families*, and directly supplicates for custom! I do not ask whether *this* is professional? But suppose a physician were to call upon the surrounding country surgeons—on gentlemen of whom he knew nothing through any previous acquaintance, and were to announce *himself* as just arrived to practise in the city or the county town,—would this be *professional*? Would it not rather place the Doctor in the same category as the commercial gent calling for orders, or the itinerant artist, whose intelligible question is—"Any old crocks or kettles to mend?"

Underselling medical services is widely practised by provincial physicians,—I mean some. Their attendance, and the sum demanded by their patronized druggist, is much less costly than the fair charge of the honest General Practiser; physicians, with regular diplomata, giving even twenty visits for a guinea! Travelling for a shilling a mile! No *Jew* would believe it; and no Christian but a very tame surgeon would allow it, and meet the delinquent in such consultation. Some provincial physicians frequent distant places at stated days, mostly market days, and pocket minor fees from their patients, who thus avoid the "travelling" honorarium. Is *this* professional?

Vast is the injury thus perpetrated on general practitioners—the worthiest members of social life, the worst paid, the most worked:

Quos ego credo manibus pedibusque omnia
Facturos—

and yet never are they enabled to retire from business. They die in harness.

The solitary practising druggist is a great foe to the general surgeon; but the physician,—the cheap physician,—conspiring with the druggist, is a peculiar traitor, and deserves no quarter.

Verberibus cæsum te in pistrinum,
Dave, dedam usque ad necem.

I have seen no proposed legislation which can touch this peculiar evil. If a law should prevent the druggist from practising, yet if he can procure a pettifogging physician to load him with prescriptions, furnished for trumpery fees, the honest surgeon-apothecary must still be defrauded. It is cheaper for Mr. P. to consult such a physician, and swallow his chymical friend's drugs, than to apply to his own family practitioner. I indignantly deplore this injustice inflicted upon upright surgeons.

Is the provincial faculty exalted by the conduct of those physicians who take up every new foolery, even if set on foot by laymen? Every medical man should peruse Dr. Hawkins's oration, not simply for its diction, but its denouncements. Its bold scorn of homœopathists—its contempt of hydropathy, as copied from an ignorant Bucolic, and practised with empirical audacity: its hortation to sobriety of views, to manly studies, to mutual friendship! But how can this sacred sentiment exist between medical men, unless it be founded upon respect? and how can most of us respect a brother who wanders into the regions of Mesmer, Hahnemann, and Priessnitz? As to the *Homœos*, it is painful to be compelled to justify their hearts at the expense of their brains; or, giving them credit for intelligence, to doubt the integrity of their morale. Yet, for the life of us, the great mass of our profession come to no other alternative.

But, above all, what can be thought of a physician who is ready to treat his patients either way—homœopathically or otherwise? giving them their choice,—the choice of opposites? the election of what must be injurious—fatal, if the other be true and salutary? Is not this a moral monstrosity—unintelligible—incredible? Æsculapius embracing both Nymphs, instead of singing—

> "How happy could I be with either,
> Were t'other dear charmer away!"

For all this wretched work what is the possible remedy? Not, surely, the intended alteration of medical corporations, which can only affect science, not the morale of the members. Wherever I go I hear fathers lamenting this state of things: deprecating our profession for their sons, as tending to lower their sense of dignity by the examples and the company which must surround them. Many parents resolve, however inconveniently, to direct their children to other modes of life.

Let us hope that the sarcasms which have been directed against the *learning* of the College will cease. It would be well if the profession at large would imitate rather than scoff. It is true that the ancients have ceased to be our sole guides in physic, but their wonderful skill still commands much respect, even reverence: and since the languages in which they wrote were those of the noblest moralists the world ever saw, if classical learning were more demanded of our medical students it could not fail to render them more professional, and less, in after life, lovers of—*pelf*.

Whatever may be said against them, the best examples of propriety justice to each other, courtesy, are set by the physicians of our metropolis. It is they who have maintained for physic the character of a liberal art. "*Medicina, architectura, doctrina rerum honestarum, hæ sunt honestæ*," said Cicero; "*mercatura autem, si tenuis est, sordida putanda est.*" I hold it that the practices of some provincial physicians, which I have denounced, are not the *medicina honesta*, but the *mercatura tenuis*. London and its physicians at present certainly hold up the respectability of the *ars medicinæ*; and as there is so much clamour to introduce country *medici* without the ancient fees or examinations, the metropolitans might naturally hesitate about this liberality;—might wish to know what some of their rural brethren would do if they got among them; lest, too late, they discover that the same practices which have sullied the name of Physician out of town, should fatally affect the character and position of the order within the walls.

Norwich, June 1849.

Selections from Journals.

REMARKS ON VARIOUS MODES OF SUICIDE. BY M. BRIERRE DE BOISMONT.

[Continued from last volume, p. 1055.]

Death by Strangulation and Hanging.

Among seven hundred and ninety-seven individuals who put an end to their existence by these means, there were six hundred and sixty-four men, and one hundred and thirty-three women; hanging was noted in three hundred and thirty-eight of these instances.

Erection of the penis was recorded in seventy-six men, about one-tenth of the whole number; and this may have been the case much more frequently. In two cases the erection continued ten hours after strangulation; in another case it persisted five days after death, notwithstanding incipient putrefaction.

One hundred and fourteen, about one-seventh of the entire number, had had emissions of semen. The spermatic fluid was found on their linen, or beneath the prepuce, or in the canal of th urethra. Sometimes there was merely a scanty transparent fluid, apparently prostatic. In one man who was

strangled, a forcible emission occurred on drawing off the trowsers. In another case where this emission of semen had occurred, luxation of the second on the first cervical vertebra had taken place.

In a considerable number of these suicides, evacuations of urine and fæces had occurred. Was this owing to spasm or relaxation of the sphincter muscles?

In seventeen other cases, there was no erection in seven, and in the other ten no emission. Thus, of the six hundred and sixty-four cases,—in two hundred and seven, or one-third, symptoms referable to the genital organs were observed; and in one hundred and ninety, or one-fourth, spermatic emissions were noted.

There exists at the present day no doubt about the possibility of *strangulation*, whatever may be the position of the body on the ground. The statistical details which are here presented confirm our previous knowledge. This circumstance was noted in one-fourth of the number. One hundred and twelve individuals had fallen against walls, with the knees bent and the soles of the feet on the ground, in such a position with regard to the ligature that it must have been heavily dragged upon. Many were so placed that they could have saved themselves if they had liked. With some the feet touched the ground; with others, the toes only. The police reports enter into the details of the various situations in which these suicides were committed.

The following case, quoted from "Critical Observations on the Non restraint System pursued in England," is important, in illustration of the possibility of perpetrating the act of strangulation in the horizontal posture:—

A gentleman was placed in a lunatic establishment of high character, the superintendent of which was a skilful and experienced man. The parents gave urgent directions, that he should be most closely watched lest he should commit suicide. He was put to bed, being fatigued with a long journey; two attendants were placed, one on each side of the bed, and every possible precaution which the case demanded was taken. In half an hour he called for the superintendent, admitted and approved of the strict watch which was kept over his safety, but begged that the close watching of the attendants might be so far relaxed that they should sit at a short distance from the bed, since their close vicinity prevented his taking the repose he required after his fatigue. The superintendent yielded to his request, and directed the attendants to remove to a short distance, but not for an instant to lose sight of him. In two hours' time the superintendent revisited his charge; spoke to him, but received no answer; touched him, but he moved not; he raised the bed-clothes: the fearful doubt which had flashed through his mind was realised,—the patient lay dead, strangled before the eyes of the two attendants who had closely watched him, but had not seen the slightest movement. He had torn off the hem of his night-shirt, twisted it into a cord, and tied a firm knot, and thus executed this determined deed.

A similar case also occurred in one of the Parisian hospitals.

The rapidity with which death has followed, and the slight traces which have been left by the ligature, have often excited surprise in death by strangulation.

It has almost uniformly been noticed, that in these cases congestion of the brain, the cord, the sinuses, and the lungs, was absent.

In some cases other modes of suicide were combined with hanging; such as wounds of the throat, large vessels, &c.

Several of those who were resuscitated stated that they had experienced flashes of light before their eyes, and feeling of heaviness of the limbs, but they had no recollection of any sexual feelings.

Wounds by fire-arms.

Gun-shot wounds have occupied much surgical attention. In Dupuytren's *Leçons Orales*, the course of balls, and their effects according to the parts they traverse, and their points of emergence, are the subjects of many extremely interesting observations. In the present essay it is proposed to add to those already known some facts furnished from three hundred and sixty-eight reports.

These wounds, arranged according to their regions, were—of the head, two hundred and seventy-seven; of the chest and abdomen, seventy-one.

Wounds of the head vary in their seat: thus they were in the cases here noted,—

Of the	Eye	9
,,	Forehead . . .	14
,,	Mouth, with laceration of commissures .	39
,,	Mouth, without laceration of commissure . .	13
,,	Involving the palate .	43
,,	Mouth, with destruction of anterior portion of the head	13
,,	Mouth, with more or less destruction of the entire head	126
,,	Temples . . .	26
,,	Chin	13
,,	Ear	1
	Total . . .	297

Wounds of the thoracico-abdominal cavity divide themselves as follows :—

Of the Heart . . .	45
,, Thorax . . .	23
,, Abdomen . .	3
Total .	71

Wounds of these regions are less frequent than those of the head, because the latter are more certainly fatal.

An examination of the details of these wounds furnish some important remarks.

The eye.—Nine had fracture of the orbital plate, the ball entering the brain. Seven had extensive fracture of the orbital region, with exit of the ball at the occiput.

The ear.—The only example of this kind of wound was a large and deep furrow without entry of the ball into the head.

Forehead.—All these wounds were round, and about an inch in diameter. Three were at the root of the nose, which was shattered to pieces.

Temples.—These wounds were usually round, with blackened borders, and of irregular shapes. Sometimes the ball made its exit from the integuments of the opposite side; frequently the two parietal bones were fractured.

Chin.—This injury varied with the kind of firearm and charge. In general an enormous gap was made, with fracture of the jaw, and carrying away the face, and even the parietal bones. One was absolutely decapitated, the débris of the skull and brains scattered to the distance of many feet.

The mouth.—Laceration of the lips in radiated forms, into shreds, or horizontally, or horribly shattered to fragments, were all met with. The superior and inferior maxillary bones were fractured, and complicated with fracture of the bone of the skull. The palate, nose, &c. were also displaced, and the eyes extruded from the orbits. In one case the face was divided vertically, as if by a cutting instrument. The tongue, tonsils, &c. have all been found shot away. In fact, the extent and variety of the injuries produced by discharge of firearms in the mouth, depending so entirely upon the amount and the direction of the charge, it is impossible to give the exact nature in each case. It has been observed in some instances as worthy of remark, that no hæmorrhage occurred, and that the most frightful injuries have not always been immediately fatal.

Thorax.—Death followed immediately upon laceration or serious wounds of the heart, except in one case, when a man lived several hours with a lacerated left ventricle.

In all these suicides, the setting fire to clothes &c., and injury of the hand, formed frequent complications.

The injuries produced by the entry and exit of balls have caused much attention to be directed to these wounds of the chest. The weapon is usually applied close to the body, either naked or clothed. In the first case, the orifice of entrance is often round, dry, black, and charred; sometimes there is found only a spot of a brownish, burnt appearance. In the other case, the wound is also round, but its edges are irregular, bruised, torn, and the skin for several inches around of a yellowish colour. Sometimes the orifice of exit is irregularly round, larger than that of entrance, and its edges everted. The medical jurist may draw some inference from the characters of these wounds, &c. as to whether suicide or homicide has been committed, the injury done to the surrounding parts being different to those wherein the wound has been received from an assassin by a weapon discharged at a distance.

Death by Precipitation and Falls.

The lesions to which these modes of suicide have given rise may be arranged in the following order :—

Wounds and fractures of the head . .	133
do. do. complicated	79
do. bones of nose . .	3
Concussion of the brain or spinal cord .	40
Wounds & fractures of the vertebral column	11
do. do. complicated	26
do. of the limbs . . .	26
do. do. complicated	41
do. of thorax	3

Of the injuries of the head, a large proportion were fracture and depression of the frontal and parietal bones. Sometimes the occipital alone was fractured; but in the majority of cases all the bones were fractured, and sometimes comminuted, and the brains scattered about. As complications of wounds of the head, fractures of the inferior extremities were met with in twenty-nine cases; of the superior and inferior in seventeen; of the superior in sixteen; of the ribs and sternum in ten; of the limbs and ribs in seven; of the vertebral column in six. One individual injured himself while falling by the discharge of a pistol into his abdomen; another stabbed himself in the left breast.

In rather more than one-tenth of the cases the death was accounted for by concussion of the brain and spinal cord.

A very extraordinary instance occurred in which a lunatic precipitated himself three several times from three successive stages of the outside of a church, and escaped unhurt beyond bruising his legs.

Fractures of different parts of the vertebral column, concussion of the brain, extravasation of blood within the cranium, and rupture of internal organs, were, as has been mentioned, found in different cases.—*Annales d'Hygiène*, 1848. χ

EXPULSION OF TWO FŒTUSES, OF UNEQUAL SIZE, AT THE SAME TIME.

Dr. Elias Horlbeck relates the following interesting case, to which he was called on the 27th of June, 1847:—

The patient, a coloured woman, had passed two menstrual periods, and was supposed to be about two months advanced in pregnancy. After undue exertion, she was seized with the most profuse flooding, which was arrested by the use of appropriate measures, and the woman made a rapid recovery. Dr. H. concluded that the product of conception had been lost, as he had never seen a case in which there was such profuse flooding where the fœtus was preserved.

The patient afterwards suffered from occasional small hæmorrhages, until Dr. H. was again called to see her, October 16th, three months and nineteen days after the first attack, with profuse flooding, which had commenced two days previously. She stated that she had increased in size and in the regular course; had felt the movement of the child; that her breasts and abdomen had enlarged, with all the other symptoms of gestation. The os uteri was open, pains were occurring at regular intervals, and things had gone so far that Dr. H. administered ergot to hasten the discharge of the embryo: after the first dose a well-grown fœtus of between five and six months was expelled, which, her mistress stated, palpitated some time after its birth. The flooding was now checked, and the placenta was in the course of the evening discharged. On dissection, it exhibited the following appearances:—The placental mass was of considerable size, having a large ruptured sac on one side, lined with the amnion, from the centre of which sprang the umbilical cord. The maternal surface of the whole mass presented a fresh appearance, as if just separated from the uterus: on close examination, it could be divided into two unequal masses, connected with the smaller of which was perceived a smaller fœtus enveloped with its usual coverings; the transparent amniotic covering containing a clear fluid, in which was floating a fœtus some seven or eight lines in length. The sac being opened, the embryo was recognized sound, fresh and plump, and life-like in its whole appearance: presumed from its development to be about six weeks old. The features of the face—such as the eyes, mouth, and nose—were distinctly visible; its thoracic and abdominal members about two lines in length; its abdomen completely closed. The umbilical vesicle was distinctly visible and filled with fluid. The cord had no swellings or bulgings in its course, but was of the same size throughout. —*American Journal of Medical Sciences*, 1848.

STATISTICS OF POOR-LAW MEDICAL ATTENDANCE.—MEDICAL RELIEF TO THE POOR.

A Summary of Orders, Visits, and Medicines supplied to Poor-Law Patients, in the Halifax district, for the Quarters specified below.

Halifax District.—Popu ation, 19,881; area, 990 acres.

	For the Quarter ending		
	Dec. 25, 1848.	March 24, 1849.	June 23, 1849.
Number of orders for medical attendance, from the Relieving-Officer	194	225	176
Visits to the residences of patients	541	510	460
Mixtures dispensed	1029	1052	996
Pills	3157	3606	3334
Powders	663	572	481
Lotions	36	46	55
Liniments	45	32	51
Boxes of ointment	36	47	41
Plasters	79	132	126
Remuneration for the duty, and the supplies, above recorded	£20, or 2s. per case.	£20, or 1s. 9¼d. per case.	£20, or 2s. 3¼d. per case.

This Table is correct.

Frederick S. Garlick,
Medical Officer for the Halifax District.

UNIVERSITY COLLEGE HOSPITAL.

Dr. Parkes has been appointed Professor of Clinical Medicine and Physician to this hospital, in the place of Dr. A. T. Thomson, deceased.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

The Three Kinds of Cod-Liver Oil, &c. By L. J. de Jongh, M D. Translated from the German by Edw. Carey, M.D.

Edinburgh Medical and Surgical Journal. July 1849.

Some Account of the Life, Writings, and Character of the late J. C. Prichard, M.D. F.R.S. By J. A. Symonds, M.D.

The British and Foreign Medico-Chirurgical Review. No. 7, July 1849.

Stricture of the Urethra: its Pathology and Treatment. By Robert Wade, F.R.C.S. 2d Edition.

Transactions of the Provincial Medical Association. Vol. 16, Part 2.

Journal de Chimie Médicale. Juillet 1849.

Comptes Rendus. Nos. 24, 25, and 26, Juin 1849.

Urologie. Traité des Angusties Retrecissements de l'Urètre. Par le Dr. Leroy d'Etiolles.

Recueil de Lettres et de Mémoires adressés à l'Académie des Sciences. Par Leroy d'Etiolles.

Histoire de la Lithotritie. Par Leroy d'Etiolles.

Résumé des Perfectionnements apportés à la Thérapeutique. Par Leroy d'Etiolles.

Etude historique de la Lithotritie.

Lettre relative au Prix d'Argenteuil.

Plainte en Diffamation et en Calomnie portée contre le Dr. Civiale. Par le Docteur Leroy d'Etiolles.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·79
" " " Thermometer[a] ..... 62·7
Self-registering do.[b] .... Max. 103·5 Min. 32·8

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·0. – Sum of the daily observations taken at 9 o'clock.

Meteorological. — The mean temperature of the week was 1°·7 above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, July 7.

Births.	Deaths.	*Av. of 5 Sum.*
Males.... 635	Males.... 566	Males.... 513
Females.. 642	Females.. 504	Females.. 495
1277	1070	1008

Causes of Death.		*Av. of 5 Sum.*
All Causes	1070	1008
Specified Causes	1066	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	393	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	36	36
3. Brain, Spinal Marrow, Nerves, and Senses	115	115
4. Heart and Bloodvessels	38	38
5. Lungs and organs of Respiration	87	81
6. Stomach, Liver, &c.	68	68
7. Diseases of the Kidneys, &c.	8	8
8. Childbirth, Diseases of Uterus, &c.	11	11
9. Rheumatism, Diseases of Bones, Joints, &c.	6	6
10. Skin	1	1
11. Old Age	32	32
12. Sudden Deaths	17	8
13. Violence, Privation, Cold, &c.	38	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	3	Convulsions	41
Measles	20	Bronchitis	35
Scarlatina	43	Pneumonia	38
Hooping-cough	47	Phthisis	126
Diarrhœa	46	Lungs	4
Cholera	152	Teething	11
Typhus	46	Stomach	2
Dropsy	11	Liver	13
Hydrocephalus	27		
Apoplexy	16	Childbirth	4
Paralysis	18	Uterus	0

Remarks.—The total number of deaths was 62 above the weekly summer average.

NOTICES TO CORRESPONDENTS.

We shall have great pleasure in giving insertion to Dr. M'Gregor's interesting paper on Cholera, as early as our arrangements will permit. —The address of the gentleman to whom he alludes is Barnes, Surrey.

The letter of the St dents of St Thomas's Hospital was too late for the present number.

Mr. W. Frazer, Aberdeen.—The addition shall be made, and a proof of the paper forwarded to Mr. F. for correction before it is inserted.

Corrigenda.—In the notice of Dr. Mitchell's work, in our last No. page 34, col. 2, line 8, for "analyses," read "analogies";—10th line from foot, for "where." read "when";—and p. 35, col. 1, line 3, for "injection," read "ingestion."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LX.

DISEASES AND INJURIES OF THE VASCULAR SYSTEM.—(Continued.)

Tying the femoral artery—usually required for popliteal aneurism—Frequency of popliteal aneurism—probable reason—Cases—Steps of the operation—Necessary precautions—Cases of tying femoral artery—Difficulties arising in this case from unusual distribution of the vessel—Further cases—Popliteal aneurism does not necessarily betoken aneurismal diathesis—Prognosis favourable in tying femoral artery—Tying popliteal artery—generally inadmissible—reasons why—Tying posterior tibial artery—operation—Tying posterior tibial in the middle of the leg—operation—difficulties. Tying anterior tibial artery—steps of the operation—Treatment of patients before and after these operations—Separation of the ligature—Question if proper to apply a ligature for aneurism—when aneurismal diathesis is evident—can only be determined by the judgment of the surgeon—Conclusion.

Operation of tying the femoral artery.—This operation is most frequently required in aneurism of the popliteal artery, or of the lower portion of the femoral itself: it may, however, be rendered necessary by wounds of the femoral, and in cases of secondary bleeding after amputation, when the hæmorrhage takes place so long after the operation as to render it inadvisable to lay open the stump. In my own practice I have tied the artery under all these different circumstances.

The comparative frequency of popliteal aneurism is not easily explained; it has been attributed to peculiar employments which affect the position of the limbs, or require the constant exercise of particular muscles: thus postilions and coachmen have been said to be most subject to popliteal aneurism. My own experience does not, however, support this view; and I am inclined to think that persons who, from the nature of the occupation, are obliged to carry great weights, are most susceptible to the disease.

In reviewing the anatomical relations of the popliteal artery, it will be seen that through the greater part of the popliteal space it derives but little support beyond that afforded by the loose cellular tissue of the region; and that, during the violent motions of the knee-joint, the vessel is subject to great tension and contortion. This vessel also sends off within the popliteal space the superior and inferior pairs of articular arteries, and a large azygos branch which supplies the interior of the knee-joint. The branching off of these vessels, particularly the single one which springs from the centre of the main trunk, must, I think, weaken the artery. A circumstance which proves to me that the frequency of popliteal aneurism arises from some peculiar physical cause is the fact that many persons have had aneurisms in this region on both sides when there appeared to be no aneurismal diathesis; and I have myself performed the operation on both legs in three cases.

On Dec. 22d, 1839, G. Wooding, æt. 38, was admitted into Guy's Hospital with aneurism of the left popliteal artery: his occupation entailed the necessity of carrying great weights, from 1½ to 3 cwt. Ten months before his admission, when heavily laden, he slipped down a stair; and at the time he experienced great pain in the knee: this soon, however, left him, but afterwards recurred, and for three months previous to his coming into the hospital he had had a swelling, the size of a walnut, in the ham. This was a great impediment to his walking, and he was obliged to give up his usual employment a week before he came into the hospital. When admitted, he seemed to be in good health: stated that he had never taken mercury; and that, although he took porter freely, he was not a drunkard. The left popliteal space was completely occupied by a firm hard tumor: by slight pressure of the artery above the tumor, the latter was rendered less tense, but the general pulsation became more distinct.

On Dec. 26th I applied a ligature on the femoral artery, about an inch above the profunda; the sheath was much redder than usual, and thickened, as if from inflammatory action: two nerves accompanied the artery. I passed the aneurismal needle under the artery, without the ligature, which I threaded through the needle after it was placed beneath the vessel. I then brought the edges of the wound together. On the eighteenth day the ligature came away, and the patient shortly after left the hospital quite cured. In the course of about two years from the date of the first operation, this man again appeared at the hospital with an aneurismal tumor in the opposite ham. In the left ham, where the operation had been previously performed, not a trace of

aneurism could be found, but on the right side there was a pulsating tumor, about the size of half an orange. On March 2, 1841. I tied the right femoral artery for this second aneurism. On passing the aneurismal needle, rather a brisk venous hæmorrhage occurred; but on tightening the ligature it immediately ceased: and this I have several times found to be the case,—so that venous hæmorrhage never now causes me to hesitate in securing the artery at once; as this, I have found, invariably proves the best means of stopping the bleeding. The temperature of the limb upon which the operation was performed was in this case 5° above that in which the artery had been formerly tied. The ligature came away on the thirteenth day, and the patient left the hospital on the 4th of April, quite recovered. He has ever since followed his original laborious occupation, and has within a week paid a visit in perfect health to the sister of the ward in which he was placed when in the hospital.

Thomas Forster, a bricklayer, æt. 28, of a leuco phlegmatic temperament, was admitted 19th July, 1836, with popliteal aneurism of right side. I tied the femoral artery on the second day after his admission, as he suffered considerable pain in the limb. The ligature came away on the eleventh day, but the wound suppurated, and was a considerable time in healing. He, however, left the hospital perfectly convalescent seventeen weeks after his admission. Four years afterwards, on the 14th of March, 1840, Forster was again admitted for popliteal aneurism in the left limb, the tumor being situated lower than usual, just at the division of the artery into its tibial branches. Venous hæmorrhage occurred in the passing of the aneurismal needle in this case, but it ceased on tying the artery. The patient left the hospital quite well.

My third case of popliteal aneurism on both sides I have already related when speaking of the cure of aneurism by compression.

To place a ligature around the femoral artery, the patient should be placed in the recumbent posture, the limb to be operated on being rotated outwards, with the leg slightly flexed over a pillow, as by these means you relax all the muscles of the extremity, while the pillow affords a firm support, which relieves the patient from that anxiety which all persons feel when about to submit to an operation, lest any movement of theirs should mar its success or expose them to danger. When the patient is properly placed, the incision is to be made, commencing about two inches and a half below Poupart's ligament, and extending downwards in the course of the sartorius muscle for three inches. Sometimes, however, there is some difficulty in distinguishing this muscle, in consequence of the œdema so frequently resulting from interruped circulation. In that case the situation of the artery may be readily ascertained by placing one end of a tape in the centre of Poupart's ligament, and the other on the inner side of the patella; while a second tape is to have its upper extremity placed on the anterior and superior process of the ileum, and its inferior on the tubercle of the internal condyle of the femur,—and the spot at which these two lines cross each other is that at which the ligature is to be applied upon the artery: and, therefore, by commencing your incision an inch and a half above this point, and carrying it an inch and a half below, you arrive immediately at the point you desire to reach. Such mechanical rules, however, are usually unnecessary, as the inner edge of the sartorius muscle is itself sufficiently evident to guide you. The first incision should only expose the fascia lata, which is next to be divided to the same extent as the skin, and in each of these steps care must be taken not to wound the saphena major vein, which may be exposed to danger. The fascia being divided, the inner edge of the sartorius muscle comes into view, and may be always recognised, from the direction of its fibres (from without to within). This muscle is now to be drawn outwards by a retractor, and the sheath of the femoral vessels will be directly presented to view. This is to be pinched up with a pair of forceps, and a small opening cautiously made into it: the opening is to be afterwards enlarged with a probe-pointed bistoury or by the scalpel, having first passed a director into it to secure the artery from danger; the aneurismal needle is next to be passed under the artery directing it from within to without, and using the instrument as you pass it to separate the artery from the vein which is placed behind it. As I have before said, I never arm the needle until after I have placed it under the vessel, as it passes much more freely when unencumbered with the silk.

The ligature is next to be tightened, and, we are told, with a sufficient degree of force to divide the inner coats of the artery: you are not, however, to suppose that you will be aware of the giving way of these coats; and you can only acquire a knowledge of the degree of force necessary to be applied for this purpose by operating upon the dead subject,—and even then you must often modify the force to be exerted according to the age of the patient; for in old people, in whom there is great liability to ossific deposits in the arteries, the ligature must be less tightly applied than in younger patients. Directly the ligature is effectually tied, the pulsation of the aneurismal tumor

cease, and it becomes more or less flaccid; but this does not always occur, as there may be some unusual division of the femoral artery above where the ligature has been applied, so that the tumor may yet be supplied with blood, and its pulsation continue. Under these circumstances, the abnormal branch must be sought for, and generally it will be readily discovered, in consequence of its inordinate action, resulting from the application of the ligature upon the other branch; it should be immediately exposed, and secured, as otherwise your first ligature would probably prove totally ineffectual. If, however, the pulsation of the tumor be very much diminished by the first ligature, I should be disposed to try the effects of compression before I proceeded to secure the second vessel.

I shall now relate a series of cases, most of which were attended with a fatal termination; and I have selected these in preference to those ending successfully, inasmuch as they show the points of difficulty that are likely to arise, not only in the operation itself, but also in the subsequent effects on the constitution of the patient, and also the influence exercised by extraneous circumstances over the curative processes of nature.

In February, 1837, I was requested by Mr. Balderson, of Poland Street, to visit an Italian gentleman, Signor Marani, of about 30 years of age, who had a small aneurismal tumor situated in the lower part of the left popliteal region; and this had increased so much in size for the few days before I saw him as to induce him to seek surgical advice. Upon examination of the limb I was surprised to find a cicatrix in the usual situation for tying the femoral artery; and upon making inquiries on the subject, he related the following history:—That in the August before he had first perceived the pulsating swelling which now existed in the ham, and that he had discovered it by accident while pulling on his stocking, but that it gave him no pain,—that he instantly consulted Mr. Geo. Greeves, of Manchester, who explained to his patient the nature of his case, and that the only means of relief was by surgical operation; this was performed early in the September following, in the presence of Mr. Wilson and another medical gentleman. I immediately wrote to Mr. Greeves for further information on the subject, and the following is an extract from his reply:—"In September last I was consulted by Signor Marani, whom I found labouring under popliteal aneurism, and for whom I tied the femoral artery in the usual manner. The case did remarkably well as far as referred to the separation of the ligature and the speedy healing of the wound; but in twelve hours after the operation, the pulsation of the tumor recurred, although at the moment the ligature was tightened the pulsation entirely ceased in the sac, which became flaccid, and, in fact, could scarcely be felt." There can be no doubt but that the femoral artery had been most properly secured, and that the continuation of the pulsation of the tumor depended upon some unusual free anastomosis, or an irregular distribution and division of the femoral artery itself; and the latter was the opinion of Mr. Cusack, whom Signor Marani consulted in Dublin, to which place he was obliged to make a visit.

From this account I was induced to make a very strict examination of the limb, when, in the course of the cicatrix, I could discover the pulsation of a vessel apparently about half the size of a healthy femoral artery; but pressure on this vessel did not command the pulsation of the aneurism. In the lower third of the thigh, just where the femoral artery perforates the tendon of the adductor magnus muscle, the pulsation of the artery was very perceptible, and pressure here immediately stopped the pulsation in the tumor. I did not, however, keep up this pressure sufficiently long to ascertain whether by delay anastomosing vessels might not have supplied the tumor with blood; but took it for granted from this experiment, that a ligature applied to the femoral artery while within "Hunter's canal," would lead to a cure of the aneurism. I explained my views of the case to my patient as to the probable circumstances which had led to the failure of the last operation, and proposed the application of a second ligature, to which he readily consented, and I performed the operation on the 18th March, 1837.

Inferior operation of tying the femoral artery.—I placed my patient in the same position as for tying the femoral artery in the high operation, and commenced the incision in about the middle of the inferior third of the thigh, extending it upwards so as to encroach upon the middle third, taking the line of direction towards the centre of Poupart's ligament, and parallel with the tendon of the adductor magnus muscle, which could be readily felt, and even seen by slight abduction of the limb. This incision exposed the fascia lata, some care being requisite to avoid the saphena major vein. The fascia lata was then divided to the same extent, and the sartorius muscle laid bare; the latter was drawn downwards exactly in the contrary direction to that in which it would be placed in the upper operation. The aponeurosis, extending from the tendon of the adductor magnus to the vastus internus muscle, could now be seen, and, lying upon it, the saphena nerve. I laid open this fascia, when I expected to expose as usual the

artery; but I had still to continue my dissection considerably deeper, so as to separate the tendon of the adductor muscle from its attachment to the femur, and so to reach the popliteal space before I could secure the vessel, which I accomplished but only with considerable difficulty. Immediately after the ligature was applied to the artery the pulsation in the tumor ceased, but in a few minutes became as distinct as before the operation. I examined more deeply into the wound, but as no other artery could be discovered, nothing further could be done than to dress the wound. When I found, upon further examination, I was still able to command the pulsation of the tumor by pressure above the wound, I placed the limb in a flexed position upon a pillow, and applied a firm compress on the aneurism; and, notwithstanding the severity of the operation, Signor Marani remarked that he had lost the painful sensation in the limb which existed prior to the operation. Considerable irritative fever followed the operation, and the action of the heart, and arterial system, generally became much affected. Bleeding, calomel, opium, and saline medicines, were had recourse to; and to my great satisfaction, not only were the severe symptoms overcome, but on the fifth day after the operation all pulsation in the aneurism had entirely ceased, and from that period never recurred.

Before the patient's recovery was complete, however, Mr. Balderson and myself both suspected he was the subject of aneurism of the abdominal aorta, and Sir Astley Cooper was requested to visit him in consultation with us: he gave it as his opinion that the inordinate action depended upon the natural irritability of the constitution, prescribed the sesquichloride of iron, and recommended him sea-air: in a fortnight he seemed to be perfectly recovered, and returned to town, as he said, quite well; and no vestige of the aneurism could be felt. Signor Marani soon left London for Milan, his native place; but three years after I was informed by a friend of his that he had died suddenly from the bursting of an internal aneurism.

A fully detailed account of this case is given in the second volume of Guy's Hospital Reports. Sir Astley Cooper had once a case somewhat similar to this in which he had tied the femoral artery in the usual situation for popliteal aneurism. Nothing particular occurred until a few days after the ligature had separated, when an abscess formed in the sac, burst, and hæmorrhage repeatedly occurred, and ultimately destroyed life. Upon dissection, it was found that a large branch had been given off by the femoral artery above where the ligature had been applied, and had again united with the femoral just where it became popliteal, and thus the obliteration of the sac had been prevented. Such a distribution might have existed in the case of Signor Marani; but, if so a further variety must have existed in the course of the popliteal artery through the adductor magnus, unless Mr. Greeves' operation had obliterated that trunk, and the vessel which I had tied been the abnormal trunk: but, even under this supposition, there remains this inexplicable fact, that my ligature did not permanently stop the pulsation of the sac. To this it may, perhaps, be answered, that the result of Mr. Greeves' operation would be to have enlarged all the anastomosing branches, which for the time, until obstructed by the inflammation consequent upon the second operation, had conveyed the blood to the sac. The following supposition of the unnatural division of the femoral artery would give a solution of the mystery in which this difficult case is involved. If, for instance, a considerable branch had been given off by one of the perforating vessels of the profunda artery, and had taken its course so as to enter the popliteal artery in the ham immediately above the sac, it would necessarily occur that the application of a ligature upon the femoral artery below the profunda would not prevent the flow of blood into the aneurismal tumor; and that therefore the second operation became necessary. Such a distribution, accompanied also by the obliteration of the superficial femoral artery resulting from the operation of Mr. Greeves, sufficiently accounts for the circumstance of my not finding that artery in the usual situation perforating in the adductor magnus muscle; while the pulsation in the cicatrix of the original wound might be referable either to the enlargement of some muscular branch, or from a high division of the anastomoticus magnus. This explanation will also accord with the fact, that my deeper dissection into the popliteal space led me to the main trunk supplying the sac, while the pulsation which returned for a time showed that the ligature was placed above, and so near the abnormal communicating branch, as to lead secondarily to its obliteration; and not until then could the pulsation in the tumor cease.

The following case will show that other circumstances besides the unnatural division of the vessel may render the operation for popliteal aneurism unsuccessful:—

September 6th, 1834, Mr. Green proceeded to tie the femoral artery in the usual situation for popliteal aneurism. On making the first incision on the inner side of the sartorius muscle, he exposed the sheath of the artery, which was normally distended, and upon laying it open, the femoral vein

could be seen completely covering the artery: the vein was drawn inwards, and the artery was found unusually deeply-seated, and dividing into two trunks of equal size, as if this were a low division of the femoral in the superficial and profunda branches. Mr. Green, therefore, continued his dissection upwards, to expose the artery above this division: in the progress of his dissection he wounded a considerable branch, and then at once decided upon placing a ligature upon the main trunk, above and below the wounded branch, and divided the vessel between the two ligatures.

The patient went on well for a week, when symptoms of gangrene appeared in the foot, and the leg was subsequently amputated below the knee. The result in this operation is what may be almost expected when a ligature is placed above the point where the profunda branch springs from the femoral. It does not, however, invariably occur, in consequence of the freedom of the anastomoses between the internal iliac artery and the arteries of the thigh.

William Groves, æt. 66, was admitted into Lazarus Ward, July 1840, with a large aneurismal tumor in the left popliteal region: he was by trade a tanner, and was subject to very laborious employment, being obliged to stoop a great deal, and being also much exposed to wet. The pulsation of the tumor was most distinctly evident in every position of the limb, and the patient often experienced considerable pain in the swelling: the pain was always relieved by pressure, and by keeping the limb in the flexed position. Compression on the femoral artery readily stopped the pulsation in the sac, the contents of which appeared to be entirely fluid. The man had latterly become much emaciated; his appetite was however, pretty good, but his rest at night was much interrupted by sudden startings. Auscultation gave no evidence of any other aneurism. On the 7th of July, five days after his admission into the hospital, I tied the femoral artery in the upper third of the thigh, and he seemed to suffer less than usual from the operation: the pulsation of the tumor ceased immediately upon the application of the ligature, and the swelling became flaccid; the patient was put to bed with the limb enveloped in flannel. There was some numbness of the limb, the temperature of which was higher than the sound one. A slight pulsation returned in the aneurism, but ceased on the next day; and for three or four days after the operation the patient continued to go on well, but on the fifth day considerable hardness and inflammation were found extending up to Poupart's ligament, and matter was discovered in the direction of the sartorius muscle: a large poultice was applied to the limb, and calomel and opium given at bed-time. The patient remained, however, without much change, until the 17th inst., when he was attacked by delirium and vomiting. Effervescing draughts, with excess of ammonia, and a few drops of laudanum, were ordered; he was also allowed to take some porter, which he preferred to wine: he continued, however, to get worse, and on the 18th instant he died. He presented at the time of his death the appearance of a patient affected with cholera. After his death, I learned that he had led a very intemperate life, and that he had even been intoxicated the evening before his admission into the hospital.

When examined after death, the body was found to be lean, the leg operated on livid, the surface of the abdomen fresh; the cuticle was separating from the arms. The right pleura was partially coated by a thin fibrinous layer; the posterior surface of the right lung was hepatized, easily lacerable, and watery. The left lung was confined by some old adhesive bands in several places, and in one spot at its posterior part there was a rent of a greenish colour, as if altered by gangrene; the heart was covered with opaque spots, and was quite flabby; the aorta was large and senile: the liver was also pale, flabby, and easily lacerable: but there was no evident disorganization of any of the abdominal viscera.

August 16, 1836.—James Kidd, aged 30, was admitted into Luke's Ward with a popliteal aneurism on the right side: on the day after his admission the femoral artery was tied. The patient went on well for a few days, when gangrene of the part supervened; amputation was found necessary: three days after, secondary hæmorrhage set in, and the patient died. In the post-mortem examination no other aneurism was found, but there was very extensive visceral disease.

Thomas Harrison, æt. 57, was admitted into Luke's Ward under the late Mr. Morgan, 20th July, 1842: the patient was the subject of a popliteal aneurism in the right side; he had only observed the swelling three days before his admission; he stated that he had been very subject to rheumatic fever, to which he had attributed the pain in his knee. On the 26th Mr. Morgan tied the femoral artery in the usual manner. On the 9th of August the ligature came away, and the patient seemed to be rapidly advancing to convalescence, when he was suddenly attacked by inflammation of the pericardium and pleura in its most acute form: from this he never recovered, but died on the 15th inst. Before the operation was performed, he was submitted to a strict examination by auscultation, and no other aneurism could be detected, but as a post-mortem examination was not permitted, this opinion could not be verified. Death

from secondary hæmorrhage, at the period of the separation of the ligature from the femoral artery in its middle third, rarely occurs; and this, perhaps, is attributable to the smallness of the branches given off by that vessel, and the great freedom with which its profunda branch above the ligature anastomoses with the inferior portion of the femoral to supply the whole of the lower extremity. As a proof that the cause of popliteal aneurism is much more usually local than diathetic, may be adduced the comparative infrequency of aneurism generally. I know that it has been asserted as a principle, that when aneurism of any vessel exists, there is almost constantly an aneurismal disposition in the other arteries; and that although the operation may succeed for the time, ultimately the patient will die of aneurismal disease. But the result of my own experience, with respect to popliteal aneurism, proves, I think, the fallacy of this opinion as a general rule; and even in the cases I have mentioned, where both popliteal arteries have been thus diseased, the fact of the individuals having for years since the operation followed laborious avocations, seems a sufficient proof that the cause of the lesion is strictly physical.

Compared with the important and highly dangerous character of the disease, there is perhaps no surgical operation which offers greater hope of success than that of applying a ligature on the femoral artery for popliteal aneurism. In my own practice I have found the average of success greater than in any other operation; and I believe that where the constitution is unimpaired, a successful result may be looked for almost with certainty.

It is not advisable to perform the operation for popliteal aneurism at a very early period after the formation of the tumor. It is better to wait until the obstruction in the main vessel has so led to the distension of the collateral branches, as to ensure a free channel for the blood when diverted from its natural course by the application of a ligature; but still, on the other hand, it is equally improper to procrastinate the operation, so as to allow the tumor to acquire such a size as may interfere with the functions of the surrounding tissues.

The operation of tying the popliteal artery within the ham, appears to me inadmissible under any circumstances. The great depth at which the artery is placed; the necessary interference with the posterior crural nerve and popliteal vein; and the separation of the articular branches from this vessel within the popliteal space,—all point out the impropriety of such a step: and these circumstances would always be sufficient to direct the choice to the tying the inferior third of the femoral artery, as I have already described. In making this choice, if it be found that the large anastomotic branch of the femoral artery be so much increased in size as to lead to the supposition that it may, after the main trunk has been tied, still convey sufficient blood to the sac to prevent its obliteration, it should also be secured; neither does this step much complicate the inferior operation, for the branch is generally given off just as the femoral artery enters "Hunter's canal," and indeed should always be looked for, so that the ligature may not be placed so near to it as to interfere with the formation of the clot in subsequent obliteration of the femoral artery itself. One of the best proofs of the danger resulting from the attempt to tie the popliteal artery, is the great fatality that followed the old operation for popliteal aneurism—viz., the laying open the sac, and tying both ends of the vessel.

Tying the posterior tibial artery may be requisite from wounds in this vessel, from the formation of a traumatic aneurism, or from wounds of the planta arteries in the sole of the foot. It may therefore require to be tied in any part of its course, but is most frequently secured behind the inner ankle.

Operation of tying the posterior tibial artery behind the malleolus internus.—To expose the artery in this situation, the patient should be placed recumbent, and the limb to be operated on turned on the outer side with the knee semiflexed, the foot being also slightly flexed: a curved incision should then be made, commencing an inch above the malleolus internus, and midway between it and the tendo Achillis; and passing round about an inch below the malleolus internus, terminate in a point directly below its anterior edge. This incision is merely to cut through the skin, so as to expose the superficial fascia, which is then to be divided to the same extent: a quantity of loose cellular membrane, with more or less fat, will require to be removed for the purpose of laying bare the deep fascia, which is here very strong, and connected with the tendons of the muscles that pass through this region to the sole of the foot. This deep fascia is next to be cut through when close to the malleolus; the tendons of the flexor longus digitorum will be seen; below and behind this, and between it and the os calcis, will be found the posterior tibial artery, with its venæ cavæ; or should the large posterior tibial nerve be brought to view, the surgeon will at once know that the artery must be lying between it and the malleolus. When the vessel is exposed, it is to be separated from its veins, and the ligature may be passed around it in the usual manner. The tendon of the flexor longus pollicis is placed behind and below the artery, and between it and the os calcis;

so that, if the incision happens to have been made too far backwards and downwards, and this tendon exposed (and it may always be recognised by moving the great toe), the artery must be sought for in front and above the tendon. The tendon of the tibialis posticus, which also passes behind the malleolus internus, is not brought into view in this operation, in consequence of its being covered by the tendon of the flexor longus digitorum.

Tying the posterior tibial artery in the middle of the leg.—This is a far more difficult operation than the one last described, but with due care the difficulties are by no means insuperable: the patient should be placed in the same position as in the last operation, excepting that the foot should be extended instead of being flexed. An incision is then to be made, of three inches in length, commencing about a hand's breadth below the head of the tibia, in the course of the internal edge of that bone, and penetrating only the skin and superficial fascia. The tibial origin of the soleus is thus exposed: and in making this incision, great care is necessary not to get behind the tibia; for if this is done the deep fascia may be at once cut through, and the guide to the future steps of the operation entirely lost. The soleus is next to be separated completely from its attachment to the tibia and deep fascia, the latter being thus distinctly brought to view. This is the most important step of the operation, as it alone can afford the surgeon an exact knowledge of the situation of the artery. This fascia is next to be divided to the same extent as the external incision, when the deep-seated muscles between the tibia and fibula will be exposed. The foot is now to be extended to its utmost, for the purpose of relaxing the muscles of the calf of the leg, so that the fingers of the operator may be readily admitted into the wound; and at about an inch in depth, midway between the tibia and fibula, the artery will be found, with the posterior tibial nerve lying on its fibular side. An aneurismal needle is then to be passed under the artery, from without to within; and its venæ comites being separated from it, the vessel is to be secured. Mr. Guthrie has recommended another mode of operating—viz. that of placing the patient in the prone position, and making a vertical incision, of seven inches in length, through the substance of the calf of the leg, and thus reaching the vessel. I have tried this operation on the dead body, and found it infinitely more difficult than the one I have just described; and in the living subject the difficulty must be still greater, on account of the violent contractions that would occur in the muscles of the calf, and which would powerfully oppose that separation of the fibres necessary to the due exposure of the deep fascia, which I hold to be so essential to the completion of the operation.

The only time I ever tied the posterior tibial artery was for a wound just above the malleolus, whence there was great hæmorrhage. In this case I enlarged the wound and tied the artery both above and below the point of lesion. I acknowledge that I found much greater difficulty in securing the vessel than I had anticipated, and attribute this difficulty to having cut too deeply in my first incision, and divided the deep fascia, which should always be first exposed, that the precise point reached should be perfectly comprehended.

Tying the anterior tibial artery.—This vessel may be tied in any part of its course, from the point where it perforates the upper interosseal hiatus to its termination in the dorsum of the foot; and its course is marked by an imaginary line drawn from a point placed midway between the tuberosity of the tibia and the head of the fibula, to the interspace between the metatarsal bone of the great toe and the toe next to it. When it is to be tied in the upper part of the leg, an incision is to be made, three inches in length, in the course of the above-named line, through the skin, down to the fascia, when an opaque white line may be seen and felt, marking the separation between the tibialis anticus and extensor longus digitorum muscles: the fascia is next to be cut through to the extent of the cutaneous incision, and the muscles separated by the handle of the knife, when the anterior tibial artery and its accompanying nerve will be exposed, the nerve lying usually in front: the foot should now be flexed to its fullest extent, and the artery being separated from its vein and nerve, the ligature may be passed around it. Should it be necessary to tie this vessel in the remaining portion of its course, the only further consideration is with respect to its anatomical relations to the muscles placed between the tibia and fibula in front: for example, in the upper part of the leg the artery is placed between the tibialis anticus and extensor communis digitorum; while below it lies between the tibialis anticus and the extensor longus pollicis.

Should this artery be wounded on the instep, an accident which not unfrequently happens to shipwrights in the use of the adze, it should be secured by enlarging the wound on the fibular side, in the course of the tendon of the extensor longus pollicis muscle.

With respect to the wounds of the plantar arteries in the sole of the foot, the treat-

ment to be adopted is the same as that followed in the wounds of the palmar arches of the hand; viz. compression at the point of injury, as well as upon the posterior and anterior tibial arteries. Should compression not check the bleeding, the posterior tibial artery may be tied with greater prospect of success than when the radial or ulnar are correspondingly tied for injury of the hand; for the anastomosis between the tibial arteries is not by any means so free as that between the radial and ulnar: consequently distal hæmorrhage is much less likely to occur.

Preparatory treatment of patients in aneurism is generally precluded, the surgeon being usually called upon to afford relief by an immediate operation; but should the opportunity present itself, great advantage may be derived from the judicious preparation of the patient. For some time before the operation he should be kept in the recumbent position, the limb being placed in the position most likely to facilitate the circulation through the collateral branches, so that they may become enlarged to fit them for the change that must necessarily take place in the amount of blood when the ligature is applied to the main trunk. The state of the bowels should also be closely attended to; and with respect to diet, it should be sufficiently nutritious to maintain the constitutional powers of the patient, and not so stimulating as to increase the action of the heart and arteries. The treatment after the operation has been performed is generally much the same as that adopted previously; subject, however, to such modifications as may be required in consequence of the symptoms resulting from the operation itself. More or less irritative fever usually supervenes, which must be moderated by salines, sudorifics, and sedatives. Abscesses may form in the course of the wound, and protracted discharge of pus may so debilitate the patient as to lead to the necessity for the administration of tonics. In some cases the aneurismal sac may slough, producing such a degree of constitutional derangement as to render it a most important question whether the limb ought not to be amputated in the hope of preserving the patient's life: and this question can only be decided by a just estimation of the extent of power, as to whether it is competent to sustain the restorative process. If none of these untoward circumstances occur, the only treatment required is to place the limb operated on in an easy semiflexed position, supported over a pillow, and wrapped up in flannel to maintain the natural temperature: should, however, the heat of the limb become too great, the flannel ought to be removed. The patient cannot be considered out of danger until the ligature has "separated": this occurs at different periods, according to the size of the vessel, and in some measure to the constitution of the patient. In the large arteries the separation of the ligature takes places in from fourteen to twenty-two days after the operation, but sometimes even later than this, particularly if any structure be included with the artery in applying the ligature. Should the separation of the ligature be delayed beyond the usual time, the surgeon should not apply force to draw it away, as it appears that nature rarely throws it off until the artery is obliterated by the adhesive inflammation; and it is to be remembered that secondary hæmorrhage most frequently occurs upon the separation of the ligature, and that the danger from bleeding is lessened in proportion to the time that elapses after the operation. Much doubt may arise in the mind of the surgeon as to the advisability of placing a ligature around an artery in aneurism when there is evidence of an aneurismal diathesis: in that case it may still, in my opinion, be right to perform the operation, even if it were only from the hope of prolonging the life of the patient, and affording an opportunity of administering such remedies as are known to promote a spontaneous cure. This is a subject, however, that must be left entirely to the judgment of the surgeon, and can in no wise be provided for by particular rules, depending as it does upon symptoms that vary in every case that comes under the notice of the practitioner.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 13th inst.:—H. J. Phillips—T. Ellis—W. F. Bassett—G. King—Said Assaid (a Syrian)—C. J. Morris—G. B. Turner—W. Squire—G. Hodson—W. H. Manifold—G. A. K. Lake—C. H. Linnock—H. W. Hughes.

Admitted on the 16th inst.:—J. A. Morris—J. E. Crook—G. H. Lovegrove—F. A. Finnimore—W. J. Moore—W. Bradley—J. W. King—F. Le Keux—P. W. Govett.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 12th of July, 1849:—Daniel Meadows, Witnesham, Suffolk—William Byron Hill, Exeter, Devon—Robert Delafosse Shield, Clun, Salop—Alfred William Moore.

Original Communications.

AN ESSAY

ON VOLITION, AS AN EXCITOR AND MODIFIER OF THE RESPIRATORY MOVEMENTS.

By Wm. Frederick Barlow, M.R.C.S.

Fellow of the Royal Medical and Chirurgical Society, and Resident Medical Officer to the Westminster Hospital.

(Read before the Medical Society of London, May 28, 1849.)

Did I not consider that the subject of this paper had an extensive bearing on the practice of medicine, I should not venture to offer it to this Society. I am aware that such topics are apt to be styled "unpractical," by a strange misapplication of an abused epithet, and one which is very commonly resorted to for the expression of aversion from all such matters as come not directly under the cognizance of the senses.

The question of respiration is extremely complex. How variously are its movements modified! How changeable is their rate! How widely range the degrees of their intensity! What multiform aspects do they put on! How singular their adaptation to circumstances! How remarkable their alterations in disease! How excessively are they affected by our passions!

Watch the respiration in sleep and the waking state, and accurately compare its features in both instances. Count its movements in both. Note well the differences in its rhythm. It is scarcely like watching the same function.

Let us mark, too, the opposite effects of unlike emotions. In daily life (for it never goes on quite calmly) we must again and again see their operations on the breathing, though we take not, perchance, that thoughtful view which Sir Charles Bell once took, and fall short of that striking power to delineate them wherewith he was so richly gifted. "Imagine," says he, "the overwhelming influence of grief: the object in the mind has absorbed the powers of the frame; the body is no more regarded—the spirits have left it; it reclines, and the limbs gravitate; the whole frame is nerveless and relaxed, and the person scarcely breathes: so far there is no difficulty in comprehending the effect in the cause. But why at intervals is there a long drawn sigh; why are the neck and throat convulsed, and whence the quivering and swelling of the lip; why the deadly paleness and the surface earthy cold; or why does convulsion spread over the frame like a paroxysm of suffocation?

"To those I address, it is unnecessary to go further than to indicate that the nerves* treated of in these papers are the instruments of expression, from the smile upon the infant's cheek, to the last agony of life. It is when the strong man is subdued by the mysterious influence of soul on body, and when the passions may be truly said to tear the breast, that we have the most afflicting picture of human frailty, and the most unequivocal proof that it is the order of functions which we have been considering that is then affected. In the first struggles of the infant to draw breath, in the man recovering from a state of suffocation, and in the agony of passion, when the breast labours from the influence at the heart, the same system of parts is affected, the same nerves, the same muscles, and the symptoms or characters have a strict resemblance."

But we must turn to less exciting and far less graphic pictures. Let a person but calmly and intently examine the dominion which volition maintains over the respiratory movements, and he will confess how great, how wide it is. He will not need go into the ward of a hospital to see a patient in an asthmatic paroxysm drawing his breath in agony. He will admit, too, if I mistake not, that voluntary respiration deserves the minutest, the most special study.

When I last drew the attention of this Society to one of the most interesting questions respecting volition,† I attempted no definition of the word. And I shall not attempt it now, for I humbly concur in the opinion long since expressed by Locke as follows: "Whosoever desires to understand what

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* Of the Nerves of Respiration. See the Nervous System of the Human Body, p. 170.

† An Essay on some of the Relations of Volition to the Physiology and Pathology of the Spinal Cord. See Medical Gazette, vol. xli. No. 1063.

it is, will better find it by reflecting on his own mind, and observing what it does when it *wills*, than by any variety of articulate sound whatsoever."* "Man," says Sir John Herschel, "in his corporeal frame, is sensible of a power to communicate a certain moderate amount of motion to himself and other objects; that this power depends on his will, and that its exertion can be suspended or increased at pleasure within certain limits; but *how* his will acts on his limbs, he has no consciousness: and whence he derives the power he thus exercises, there is nothing to assure him, however he may long to know."

A person may become temporarily the real and sole excitor of his respiratory muscles. I allude not to the case in which, within certain limits, we supersede at our pleasure involuntary breathing, but to that wherein the latter stops altogether, and we must respire by our volition if we would breathe at all. To show that I am referring to nothing visionary, I may call to mind the curious affection which Mr. Hunter has described as happening to himself "There have been instances," remarks this original philosopher, "where the motion of the heart has ceased, and also the involuntary action of the breathing: this once happened to myself." . . . "As I was walking about the room, I cast my eyes on a looking-glass, and observed my countenance pale, my lips white, and I had the appearance of a dead man looking at himself This alarmed me. I could feel no pulse in either arm. The pain still continuing, I began to think it very serious. I found myself at times not breathing; and being afraid of death soon taking place if I did not breathe, I produced a voluntary action of breathing, working my lungs by the power of my will. I continued in this state for three quarters of an hour, when the pain lessened, the pulse was felt, and involuntary breathing began to take place. . . . . Here, then, was a suspension of the most material involuntary actions; so much so that the involuntary action of breathing stopped, while sensation and all the voluntary actions were as strong as before."*

I have often thought about these phenomena which Mr. Hunter would appear to have so closely contemplated in a moment of danger. The continuance of the circulation when the pulse was felt not, and the efforts which Mr. Hunter made to breathe with the *express purpose* of preventing dissolution, are curious matters for reflection. Speaking of his strange condition, he inquires:—"What would have been the consequence if I had not breathed? At the time it struck me that I should have died; but that most probably would not have been the consequence, because, most probably, breathing is only necessary for the blood when it is circulating; but as there was no circulation going on, so no good could have resulted from the breathing." But the circulation might not have been stayed *completely*, although Mr. Hunter failed to detect a pulse. I have been unable to feel a beating at the wrist of patients, although the circulation was most demonstrably going on.* And granting that the blood had quite stopped its current at the time of Mr. Hunter's voluntarily breathing, I fail in perceiving how his efforts could have been useless, seeing that in states both of suspended circulation and respiratory motion, it is ever our first care to bring about as quickly as we can an inspiratory effort: it is this, and the repetition of this, that we look for as a means of exciting the heart again to perceptible, and, in the end, sustained and effective action.

Quite as remarkable is the case of Dr. Bateman, which has been excellently delineated by himself.† It differs in its general features from that of Mr. Hunter, but in this instance also, as I hope to show, volition was necessary to sustain the respiration. The disease was mercurial erythism, surely one of the most singular affections that can engage the physician. *Sleep* more than once threatened dissolution; and the being aroused from it at frequent periods proved a most saving measure. Let me extract some passages from the narration of the complaint. "It was," says Dr. Bateman, "now distinctly obvious that the action of the heart and

* On the Human Understanding, 16th edition, p. 602. Discourse of Natural Philosophy, p. 5.

† Works of Hunter, Palmer's Edition, vol. i. page 244.

* The pulse may at times be distinguished readily enough in the carotid, when it is impossible to feel it in the radial, artery. This I have had occasion to observe recently in the collapse of cholera.

† Medico-Chirurgical Transactions, vol. xix.

arteries, which was extremely feeble and irregular while awake, was *so much more enfeebled during sleep* as to be in fact almost suspended, and thus to occasion those alarming faintings and sinkings; so that it became necessary, notwithstanding the extreme drowsiness which had succeeded the long-continued watchfulness, to interrupt the sleep at the expiration of *two* minutes, by which time, or even sooner, the sinking of the pulse and countenance indicated the approaching languor."* Again: "The debility left by the two paroxysms of the preceding night was extreme, and it was *still necessary both day and night to watch and interrupt the sleep every two minutes:* this measure was necessarily continued for three weeks or more, during which period the length of the permitted slumbers was gradually increased, having reached five minutes in eight or nine days, and soon afterwards a quarter of an hour; still, however, producing similar paroxysms of fainting, more or less severe. The distress, indeed, accompanying these paroxysms, excited so much dread of indulging the overpowering drowsiness, that *the most urgent requests were made by the patient for strictly watching and interrupting his sleep.*" Such was the alarming exhaustion, that æther, wine, ammonia, musk, and other stimulants were needed, and taken from time to time; and it really does seem, at first sight, a most strange proceeding to have so frequently broken the sleep—that incomparably first of restoratives; but so unusual a measure was fully justified by a state not less so; the effects of sleep, so far from being benign in character, were obviously pregnant with no common danger, and, as I conclude, entirely from the *withdrawal of volition*, whereby the breathing, unable to go on without assistance, was entirely abandoned to itself. Dr. Bateman has laid considerable stress on the deranged action of the heart; but this might have been dependent partly on the suspension of the breathing; and the *supposition* seems the likelier when we reflect that the patient was relieved by being aroused, the respiration being then rallied and supported by volition, and the heart's action in this way indirectly influenced.

There is nothing more truly remarkable in the pathological history of volition than the way in which it modifies the respiratory movements in different diseases. The aspect of the thorax in its various affections is at this time being investigated by Dr. Sibson; and he has already most ably and lucidly treated of this large and important subject. By watching the respiration, the abdominal affection is distinguished from the thoracic, and one thoracic malady from another; the distinctive characters of each are very much dependent on the will. When, in acute pleurisy, the air feebly enters that portion of the lung which is covered by the inflamed membrane; or in pneumonia is directed as much as possible from the immediate neighbourhood of the affected part, and driven with an unwonted energy into the healthy portions of the organ, that the pain may be lessened, and the attacked spot kept as much as possible in that state of rest which, in all kinds of inflammation, is so favourable to cure, the practitioner who takes cognizance of this state of things is too apt to forget the cause in thinking of the effect. By no mere adaptation of *involuntary* respiration is this important modification of breathing brought about: and in contemplating what the will effects, we must remember always how many and frequent voluntary motions are performed by us easily without our consciousness. All this, or nearly all, is accomplished by *volition*, which, never interfering with the vital function of respiration, except need arise, extraordinarily modifies it then. Sleep is often impossible or most difficult to obtain in acute cases of diseases of the chest, because it withdraws volition, and with it those forced and altered movements which afford relief. To give opiates in an extreme instance of this kind may chance to kill; for such may be the state of the lung and the difficulty of respiration, that the involuntary powers may be altogether insufficient for the emergencies of the occasion. Sometimes, as every one who has watched such diseases must know, life is only to be sustained by the most laborious and unremitting voluntary efforts, until at length, perhaps, the lung become too spoiled for

* A case has been mentioned to me by Mr. Stedman, in which it was necessary to arouse the patient (a lady) in like manner. She appeared fast sinking from loss of blood, but recovered in the end.

vital office, the will be wearied, the motor force exhausted. Pathologists are but too apt, in post mortem proceedings, to think of the state of the lung too exclusively, forgetful of, or at the least too little considering, the grea share taken by the exhaustion attendant on the protracted sleeplessness and the perpetual distress in paving the way for dissolution. But volition it is which in the worst of circumstances so often lengthens out the act of dying, making the most of the nervous force, the muscles at its command, and (it may happen) of that small portion of lung, which, hemmed in on every side by large masses of blocked-up or disabled struc ture, is yet able to do duty. L t a patient be noted who, overwhelmed with the horrid sense of suffocation, is on the verge of death from some asphyxiating disease of the chest. Raised, he leans forwards (for lie down he cannot) with starting eyes, blue lips, congested face, and swollen veins of head and neck, panting for breath; and still, despite his struggles, unable to avoid the agony produced by want of air, and a feeling likened often to that of dying. The aids which Nature furnishes are not less to be considered than the remedies, often the visionary remedies, of the physician. It does not come within the scope of this short fragment to enter into the peculiar characteristics of the breathing in peritonitis, laryngitis, croup, bronchitis, vesicular emphysema, and some other affections; and if it did, I could give no descriptions that would be equal to those which Dr. Sibson has laid before the profession. There are various changes in the respiratory motions also that Sir Charles Bell and Dr. Marshall Hall have dwelt upon, which, though of much moment, I must omit to mention here.*

I do not hold it absurd to suppose that in some few critical cases of pulmonary affection, the issue may rest in some measure on the will being exerted energetically or otherwise; that volition has a great, nay, a measureless effect in relieving distress, in procuring a full oxygenation of the blood, and in causing one part of the lung to compensate for the deficiencies of another, or one lung to supply the place of its fellow made useless by changes within or without it, will be generally admitted. Some there are who, in the emergencies and anguish and terror of disease, contending manfully, help themselves to the utmost and are difficult to subdue. Others are by far more readily mastered. Examinations after death show well enough that the physical alterations of those who die of the same maladies vary very greatly. There is much more to be considered in reference to dissolution than we can learn from the traces of disease.

There is a very important subject connected with our topic,—*the voluntary exercise of respiration in pulmonary disease.* Dr. Holland has directed especial attention to it in his "Medical Notes and Reflections;" and I think that I shall do it most justice by referring to some of the many points which he has instructively insisted on. It is observed by him (in effect, at least, for I do not quote altogether *verbatim*,) that the respiratory organs are apt to be maintained at rest in certain cases of disease where an opposite mode of treatment would be more likely to be of service, and that their due and express exercise is rather indicated; that "the free and equable expansion of the lungs by full inspiration, is beneficial—first, in maintaining their healthy structure by keeping all the air passages duly open and pervious; secondly, in preventing congestion in the pulmonary circulation; thirdly, in providing more completely for the necessary chemical action on the blood;" that the "exercise of the lungs by repetition of a given exertion," tends to invigorate on the same principle whereby exercise generally strengthens; that use makes easy and more than tolerable those purposed efforts of the respiratory muscles which at first were irksome and hard to perform; that nature, by the forced inspirations which she has instituted in certain cases of embarrassed breathing, has suggested a remedy for relief in others; that "good is occasionally to be gained from the regulated exercise of respiration, even when diseased actions are already going on within the lungs: much more where there is only threatening of these from hereditary or accidental causes in the constitution;" that the benefit of such exercise is not limited to the lungs themselves, but must extend to the

* This passage relative to the help given by volition in chest-diseases, was omitted by me in the reading of the paper, for want of time.

body generally; that "it is a good we are in no wise entitled to neglect," seeing how scanty are our remedies in "the most fatal and frequent form of pulmonary disease;" that the quality and temperature of the air to be respired must be well considered in giving trial to the remedy; that the modes of exercising respiration should vary with the powers and exigencies of the patient; that healthy *clara lectio*, singing and recitation, are respectively indicated in some instances of tendency to chest disease; that excess of exercise, whatever be its kind, must be carefully avoided; that of "actual" muscular respiratory exercises, "full and repeated inspiration in the free air is perhaps one of the best;" that the body must in some cases be kept "at rest, or in slight easy movements," during this special exertion, lest harm follow from "hurry of circulation, oppressed breathing, or exhausted muscular power;" that, where exercise on foot or horseback is precluded, this "voluntary and gentle" labour of respiration may be pursued with benefit; that it may be doubted whether "the due arterialization of the blood, familiar as a physiological doctrine, has been enough considered by physicians in relation to the treatment or prevention of disease;" and that "we are bound to take more advantage than has yet been done" of the command which we enjoy over the respiratory muscles.

But there are many cases of disease, not called pulmonary, although they are very apt to involve the lungs, in which we should pay most particular attention to the state of the breathing movements. Where these are impaired, great harm to the lungs, and consequently to the system, is too likely to follow. They may be affected both voluntarily and involuntarily, as in typhus, or, in other words, centrically as regards the brain and eccentrically as concerns the spinal marrow. They share the general prostration; nor is it to be supposed that they alone could be exempt. As a result of this, the lung is liable to be expanded imperfectly, and the blood to be very partially oxygenated, though the fullest aeration that is possible be desirable. The patient is so comatose often, so utterly incapable of being roused, that it would be folly to urge him to take deep inspirations. Volition cannot help us. Under such circumstances I have found much good result by having cold water applied freely to the face, and sometimes to the chest also, not with the view of merely producing an effect upon the skin, but with the design of causing an ampler expansion of the thorax, and a freer arterialization of the blood. It is quite impossible to over-estimate the bad consequences resulting from want of oxygen. This remark holds good generally. Ineffective respiration and impure air are the prolific parents of a multitude of evils. What more than the latter favours scrofula?* As Dr. Carpenter remarks, the imperfect supply of oxygen would be injurious, though the carbonic acid could be removed by other than the ordinary means; and for the reason that it is necessary to the due nutrition and action of the tissues and organs.† This must be remembered in all diseases, but especially where the respiration is impaired. The failing of this function is often the first step to death. It must also be borne in mind that the motor power, common alike to voluntary and involuntary acts, "depends greatly for its measure," as Dr. Marshall Hall has pointed out, "on the condition of the blood, and on the force of the circulation within the spinal marrow, and especially in warm-blooded animals."‡ Cold-blooded creatures also most interestingly exemplify the close relation between that force and the effects of air. Many facts prove this. The experiments of Dr. W. F. Edwards illustrate it. Professor Müller revived frogs, which had seemed dead from being placed in hydrogen, by exposing them to the air. Dr. Marshall Hall, after immersing frogs in water, found he could excite no reflex actions; but the effect of the atmosphere, whereto they were afterwards exposed, soon became apparent in restoring the motor power. But it is superfluous to proceed; and I will only stay to mention that nothing can exemplify the influence of oxygen better than insects. I have observed, in the course of experimental inquiry, that I could

* For an account of the prevalence of scrofula in Great Britain, see Mr. Phillips's work on this disease, p. 79. But in speaking of bad air, as Mr Phillips shews, we must not forget bad and insufficient food.

† Principles of Human Physiology, p. 448.

‡ New Memoir on the Nervous System, p. 29.

at will abolish their respiratory motions by depriving them of this, and, at pleasure, restore them by allowing it to have access again. Life and death may be thus readily made to alternate.

Whatever causes the introduction of oxygen into the blood, be it volition or impressions on the vagi nerves, or on those of the fifth and spinal, which I have ventured to call the *provisional* excitors of respiration,—be it galvanism or artificial inflation,—deserves the peculiar and diligent study of every practitioner. In *extreme* cases, such as those of recovery from drowning where life seemed gone, we perceive what oxygenating the blood effects, and cannot enough express our wonder at the issue; but in instances less extreme, and where the respiratory movements are diminished only, yet do not pause, we are not ready enough to calculate the bad, perhaps perilous, consequences of the impaired breathing. *Sudden* asphyxia strikes us; but *gradual* asphyxia, wherewith we have far more commonly to deal, is but too apt to be regarded by us as a necessary link in that chain of morbid actions which constitute a disease, as a necessary step, perhaps, in the way to dissolution, and it is a question whether we yet do (at least in some instances) all that could be accomplished to avert it. It is of more consequence to watch the respiration, where the will and consciousness are all but withdrawn by reason of the stupor the patient lies in, than under other circumstances; for he is not warned by his sensations of what may be going wrong, and has no power to help himself by taking forced inspirations, or adapting his breathing to the requirements of his case. It is, too, I may observe here, of considerable importance to watch a person who has just been rescued from asphyxia, in his sleep. Should he have been aroused, so as to take *voluntary* inspiration, repose will deprive him of one means of exciting that function: its office may not yet be vigorously re-established, the inspirations may become feeble, and sleep may pass into coma, and coma into death. When a man has taken opium, the mere forced excitement of his *voluntary* power may preserve him; but that excitement must be continued, or the will will relax, and respiration fail.

I feel, as many others must do also, quite persuaded that the great and common mischief resulting from defective vigour of the respiratory motions, whether voluntary or involuntary, has not yet received a due share of consideration, or, in truth, anything approaching it. All the changes produced in the lungs themselves by derangement or failure of these movements are not at present known even, but steps are being taken in the right direction. There is a disease called *atelectasis*—a term signifying imperfect expansion.* It is seen in infants, for the most part, though it is not confined to them. It is congenital; in which case the fœtal lung has never perfectly expanded, and this form of the affection has been sometimes observed by Professor Jörg of Leipsic. It may happen after birth and the lung has been thoroughly filled with air, exemplifying a kind of the affection of great consequence to be known, and for our knowledge whereof we are indebted to the invaluable investigations of MM. Bailly and Legendre, who have shown beyond cavil that it has been frequently mistaken for lobular pneumonia, the records of which latter have been indescribably falsified in consequence. It has been noticed by Dr. Baly in three cases of adults who died of fever complicated with dysenteric symptoms; and his observations are, I need not point out, of far more worth than if they had been simply confirmatory of the conclusions arrived at by other pathologists as to its occurrence in early life, because they lead us to generalize respecting the malady, and to infer that, wherever the lung is imperfectly expanded through feebleness of the breathing movements, this condition of the organ is likely to follow. I am indebted to Dr. West, at many of whose post-mortem examinations of children I used formerly to be present, for first pointing out to me, and clinically illustrating, this important affection.† I have principally noted it in young children; but the last well-marked case I saw of it happened in a girl eleven years of age, who died of rheumatic pericarditis. Before death there was

* Compounded of ἀτελὴς and ἔκτασις.

† Let me refer to his recently published Lectures for a very full and accurate description of it; and also to the remarks in Hasse's Pathology, Edition of the Sydenham Society, p. 248.

exceeding dyspnœa, and a great failure of the respiratory contractions. It was plain enough that that condition was established which causes *atelectasis*: the involuntary movements were fast on the decline, and volition, probably through the extreme exhaustion of the motor force (on which the act of dying, to speak in a general sense, depends in great part), was all but unable to lend assistance. On examining the body, I found considerable portions of both lungs in a state of atelectasis, which had chiefly affected the lower lobes at their posterior and inferior parts. The altered portions, which were covered by healthy pleura, were of a dark purple, depressed on the surface, uncrepitant, dense, and heavy; their boundaries were the united borders of occluded lobules, here many being aggregated,—there few. They had decreased in bulk, as might be seen by comparing them with the surrounding and normal structure,—thus conforming to that condition of fœtal life which obtains ere the lung is a breathing organ, and whereby we are enabled to affirm, in certain cases of suspected infanticide, that no respiration has been established. In imitation of the plan of MM. Baily and Legendre, I attempted inflation of the collapsed parts. By perseverance they became permeated by air; and as they underwent a gradual expansion their purple colour vanished, giving way to a red tint, which became lighter and lighter as the inflation more and more unfolded them. Meanwhile their density and firmness yielded, and their once light and spongy structure was restored. There was in these lungs the very opposite state to that prevailing when one of these organs compensates by a new vigour of respiration for the lost function of its fellow; or to that noticeable in vesicular emphysema, where so great an expansion of the chest prevails, and a deep inspiration has become impossible, because the thorax is enlarged almost to the full, and the diaphragm is pushed downwards to the utmost.

The scope of this short contribution allows no further remark on one of the most interesting affections that can possibly be studied. Surely none more beautifully illustrates the relations of the lung and the respiratory movements. It may be imagined how such a mind as Hunter's would have contemplated it, reasoned on it, generalised concerning it. But what is its remedy? Infants who are too weak for free and full respiration to be established at time of birth, or who seem unable to fill the chest with air soon afterwards, might be assisted by those strong inspiratory efforts which are produced by the application of cold* to the surfaces; or, still more, by heat and cold *alternately* applied. Galvanism is undoubtedly indicated should these measures disappoint us. Should it occur at a later time, and when it is far more difficult to recognise, the same means are applicable; but to be effective they must be repeated frequently. And if it be suspected in typhus, the principles on which we must act are similar. The remedy is implied by the *kind* of the disease; and those free inspirations whose absence causes it must be provoked if possible. Of course the frame in general is to be sustained; tonics are often indicated, and that greatest of all of them, pure air, which in the wretched and crowded hovels of the poorest cannot, oftentimes, be obtained.

Deep *voluntary* inspirations would be of great service in cases of atelectasis; but the infant cannot be directed to take them, nor he whom the coma of typhus has overcome. That the affection may result from failure of voluntary as well as of involuntary respiration cannot be questioned. When is volition feebler than at and some time after birth? when feebler than in typhus? M. Louis, that great observer, found a condition of lung in forty-six post-mortem examinations after typhoid fever, which, Dr. West argues, and satisfactorily to my mind, must have been identical with atelectasis.

Hitherto I have made scarcely any reference to physiological inquiry; but I must be permitted to conclude this paper by a short comment on an experiment which renders respiration an entirely, or all but an entirely, voluntary act. For the evidence of this I must refer to Dr. Marshall Hall's observations "On the Acts of Respira-

* Care of course being taken to prevent its depressing influence. The *continued* application of it is quite out of the question. It is to be used simply as an excitant, and not used at all if the surface be too cool to bear it.

tion."* Admitting the pneumogastric to be the ordinary excitor nerve of the breathing movements, as this distinguished physiologist maintains, it is easy to comprehend the immediate consequences which follow its division; whilst, as it seems to me, it is impossible to explain them in any other point of view. The dyspnœa which follows the section is most peculiar, and evidently, in my judgment, of a voluntary character. I made a guinea-pig insensible with chloroform: the animal continued breathing; but on my dividing both the pneumogastric nerves, all respiratory motion ceased. I applied cold freely to the skin: thus breathing was excited, and consciousness and volition were soon restored. Then was seen that peculiar respiration which Legallois has so graphically pictured. The creature respired slowly (fourteen times in a minute), but used extreme effort to expand its chest: the neck was stretched out, the mouth was opened widely, and all the aids of respiration were called into play. It seemed distressed, and was almost continually in motion; but every now and then it would become still, and try to inspire as much air as possible. The description of Legallois is so true, and so characteristic of the state of the respiration produced by this experiment, that I cannot resist its quotation. This original physiologist has remarked—"De tous les symptômes que produit la section de la paire vague, ceux qui concernent la respiration, sont à la fois les plus constans et les plus remarquables; aussi ont ils été observés par la plupart des auteurs qui ont répété cette expérience. Ces symptômes se manifestent aussitôt que les nerfs ont été coupés, et leur intensité ne fait que s'accroître de plus en plus; ainsi la respiration est haute et rare, et à mesure qu'elle devient plus laborieuse, toutes les puissances inspiratrices sont mises en action. L'animal se tient coi (surtout les lapins et cochins d'Inde), et semble n'être attentif qu'à faire entrer le plus d'air qu'il peut dans ses poumons. La couleur du sang artériel, d'abord peu changée, perd peu à peu son éclat, et prend une teinte de plus en plus sombre: on sent au toucher que l'animal se refroidit."†

Nothing can be more succinct or more accurate than this account of the remarkable dyspnœa which is beheld after the division of the nerve in question. The animal who has suffered it dies, in the end, of asphyxia. Dupuytren and others, differing from some experimenters, saw this not dimly, but they failed to detect *how* the suffocation was caused: why the breathing should so labour when the nervi vagi were cut asunder was a puzzle to them: for as these inquirers perceived not in those nerves the excitors of respiration, they could assign no true cause for the movements of the thorax being so immediately embarrassed by their section. But in Dr. Marshall Hall's view of the subject, it is easy to show cause for the results of the experiment, and to discover why the animal so laboriously respiring by its own will, should at last become jaded even to exhaustion, and, with blood less and less oxygenated every moment, perish eventually of want of air. There is no rest, no sleep, for the being thus reduced by experiment to all but exclusively voluntary respiration; because the wise provision (dwelt upon formerly and very happily, by Sir Charles Bell) whereby the *vital* actions are made *involuntary*, is set aside effectually, and life is made to hang upon *volition* solely.

Besides the depriving respiration of its special excitor, other effects ensue upon the division of the nervus vagus, but it would be irrelevant to discuss them here: it may, however, be observed, that much, if not all, of the alteration found in the lungs, may be reasonably attributed to the oppressed and ineffective breathing. This point has been remarked by Dr. Reid.* It struck me that the alteration in the pulmonary texture might be of the same nature as that which occurs in *atelectasis*. I examined the lungs of the guinea pig whose nervi vagi I had divided soon after its death. Here and there the air cells had collapsed, and the organ certainly presented the appearances seen in this affection. Parts of it were dense, purple, and depressed somewhat on the surface.

* Op. cit. p. 69.
† Œuvres de Car. Legallois, p. 193, tome i.

* See his elaborate experimental inquiry into the Functions of the Eighth Pair of Nerves, "undoubtedly," as he truly says, "the most interesting and important of all the nerves of the body."

By artificial inflation I succeeded in expanding much of the changed structure, the colour and consistence whereof was influenced just as it is thus acted upon in *atelectasis*.

Experimental inquiry has thrown the brightest light on the function of respiration. Pathological illustrate physiological phenomena, and the converse is most evident. Did medicine (let me be pardoned the personification) see what was necessary for her own quick progress and amplest uses, she would attach herself to physiology as fastly as the climbing plant clings to the prop whereby it rises from the ground: even as the vine—"vitis quidem, quæ naturâ caduca est, et, nisi fulta sit, ad terram fertur."*

In making another contribution on the subject of volition in its relation to the nervous system, let me observe how much I wish that I had discussed it in a manner more commensurate with its high importance. It delights me to think that it is now occupying the minds of some of our most eminent physicians and physiologists; and I would remind any one viewing it lightly and inconsiderately, that it once engaged the attention of Mr. Hunter, who was wont to contemplate it in that high and true, and ever ardent spirit of philosophy, which was the source of his enthusiasm, the spur of his industry, the support of his labours, the solution of his difficulties, and the secret of his power.

Note on the Production of Voluntary Motions.

There is a passage in the writings of Dr. Baillie, which states a very important though simple point, respecting the action of the will upon the muscles, with much force and clearness. "It is remarkable," he observes, "that, although the effect of volition upon muscles, when conveyed along nerves to them, is that of their being put into motion, yet the volition is never exerted towards the muscles themselves, but towards that change which is intended to be produced by their actions. One might naturally be inclined to think that the volition would be directed towards the muscles themselves which are called into action. Upon a little consideration, however, it is easy to see why this should not be the case. Were volition to be directed towards the muscles themselves, it would be necessary to understand what muscles ought to be called into action, in order to produce every variety of change in the motions of the body of which it may be capable. This, however, would be totally impossible in an infant, and, indeed, it is a knowledge which the most perfect physiologist has never yet been able to attain.*"

Nothing can be plainer than the truth of these reflections. We talk complacently of willing this movement and the other, forgetful of how much is done *for*, and how little *by*, us in the least complex voluntary motions even: we will actions, and they follow, but we do not *consciously* direct the *muscles* which effect them,—nay, in very many instances the best of anatomists would find it hard to say what fibres should be put in action to bring about some given end, although that end can be accomplished with facility by an idiot's volition.

Beside the extract from the distinguished physician mentioned above, I would be permitted to place a quotation from Lord Shaftesbury's characteristics.† "——— I have no occasion for this sort of learning, and am no more desirous of knowing how I form or compound those ideas, which are marked by words, than I am of knowing how and by what motions of my tongue or palate I form those *articulate sounds*, which I can full as well pronounce without any such science or speculation."

When we read a remark like that of Dr. Baillie, we are apt to think, from the clearness of its meaning, that it must have occurred to ourselves as a matter of course, the probability being that the question which it touches has never engaged the thoughts of most of us. As to our mode of contracting the voluntary muscles, we may in some sense be likened to a player on the pianoforte, who, in complete ignorance of its construction, strikes the keys with a purpose, and the desired notes succeed just as readily, just as well, as though he had a most perfect knowledge of the mechanism of the instrument. But let this difference be observed: we can not only effect motions through the nerves

* Cicero de Senectute.

* Posthumous Works, p. 141.
† Edition 6th, vol. i. p. 303.

with a far greater ease and precision than he can elicit sounds through the keys, but even without knowing that we have a nerve at all, or any one of the several parts that is indispensable to the production of a voluntary muscular act.

ABORTION PRODUCED BY METASTASIS IN CYNANCHE PAROTIDŒA.

By Thomas Salter, F.L.S., F.R.C.S.

On the 17th of November, 1846, I was called professionally to visit a lady of rank in the vicinity of a neighbouring town, whom I found labouring under a smart attack of Cynanche Parotidœa, a complaint which her husband had suffered from a fortnight before; and during his illness he had metastasis of the affection to the testes. This lady was about twenty-five years of age, tall, of delicate conformation, with a sensitive and somewhat irritable nervous system; she was advanced just beyond the third month of her third pregnancy, her two previous children being alive and in good health. The usual treatment was directed, and on the following day she was found better, and apparently doing well: a vaginal discharge, however, had taken place in the night, small in quantity, and very slightly coloured, but there was no pain of any description. As this lady had shown no tendency to abort in her former pregnancies, I entertained the hope that by judicious management such an occurrence might be averted in he present instance, and I was encouraged in this hope from learning, on my next visit (19th), that the discharge had ceased; but this favourable prospect was soon changed, for on the morning of the 20th, 5 A.M., I was hastily called to the assistance of the patient, who I found had had considerable uterine hæmorrhage come on suddenly in the middle of the night, accompanied by strong intermittent uterine pains, by which the fœtus had been expelled, with an abundant discharge of coagula; the placenta being still retained, and some sanguineous discharge per vaginam going on. There were now no pains. On making the usual examination, no part of the placenta could be reached; it was clearly still within the uterine cavity. As this lady had lost a good deal of blood subsequent to the birth of each of her former children, I was anxious that no undue discharge should take place on the present occasion; therefore, cloths wet with vinegar and water were assiduously applied to the pudendum, and on the abdomen over the region of the uterus, and a dose of a mixture, containing dilute sulphuric acid and infusion of roses, was given at intervals. The fœtus was about four inches in length: though there was no discolouration, there were patches on several parts of the body where the cuticle was beginning to be detached; it is therefore probable that the fœtus was not alive after the first appearance of the vaginal discharge, possibly not for some hours previous to that occurrence. Notwithstanding the endeavours to keep the hæmorrhage under, the patient continued to lose blood; and as there were no expulsive uterine efforts by which the placenta might be detached, I had recourse to the ergot of rye, which was repeated several times in the course of the day, and apparently without any effect, as it excited no uterine contractions. At the same time several attempts were made to reach the placenta with the finger, in the hope that I might thus be able to hook it away, but it was not till after 7 P.M.—fourteen hours subsequent to the birth of the fœtus—that any part of that organ could be reached; and at about eight o'clock, with the assistance of strong voluntary expulsive efforts of the patient, I succeeded in detaching it, when the hæmorrhage ceased.

I was much surprised at the appearance of the placenta, to which organ it had very little apparent resemblance: it was about the size of my two closed hands, and had the look of a large coagulum; and had not about two inches of the torn funis remained connected with its centre, it might readily have been mistaken for such. On closer inspection, however, the amnion was observed to be extended over the fœtal surface of the organ, and the decidua over the opposite or maternal aspect: between these two membranes, and within the cellular structure of the placenta, a large mass of blood, which constituted the chief bulk of the secundines, was contained.

The resemblance to a coagulum consisted not merely in its external aspect, but a section of the mass, which was an inch and a half in thickness, exhibited an equally apparent likeness to coagulum. There was, however, a small portion, about an inch square, in a normal state; but it was only by maceration, and squeezing out the blood, that the other and larger division was brought to exhibit the characteristics of true placenta.

Remarks.—Among the various causes of abortion, hæmorrhage into the cavernous structure of the placenta is the one of most frequent occurrence. Dr. Lee, in his lectures on this subject, published in the Medical Gazette, observes—"By far the most frequent cause of the accident is a morbid condition of the ovum;" and subsequently he goes on to say—"out of fifty-six cases of abortion, in four only was the ovum in a healthy condition."

Hæmorrhage into the placenta would appear to occur under two forms, which may severally be denominated acute and chronic. The case here narrated clearly belongs to the former division, and was probably the result of an undue momentum of blood to the uterus, leading to rapid hæmorrhage, and the consequent formation of the large and uniform coagulum discovered in the cavernous structure of the placenta.

The chief point of interest in the foregoing case is the question, how far the *specific* influence of the cyanche parotidœa might have been operative in causing abortion? It must be granted that the mere febrile excitement of any severe inflammatory disease is enough, in persons so disposed, to excite abortion; but I much question if this case can be so accounted for, and that the abortion was produced simply by the febrile disturbance of the disease, independent of its specific action. Maintaining, therefore, the idea that the accident was the result of metastasis, it appears to me interesting *physiologically*, as it would tend to show that the ovum, while in the uterus, maintains the same relations to the rest of the organism, and is subject to the same influence, as when in the ovarium; and *practically* it would have an important influence on prognosis, which I should think, as far as the ovum is concerned, very unfavourable in such cases.

We have abundant experience to show, through the influence of the disease, the relation subsisting between the parotid glands, whilst affected with this specific inflammation, and the testicles in the male; and also between the same organs and the breasts in the female: and from the known sympathetic association of the mammary glands with the ovaria and uterus, it may readily be supposed that in cynanche parotidœa, an irritation may be communicated to the uterine system leading to results incompatible with the continuance of the process of utero-gestation. And, on the other hand, it is possible, in this chain of causation, in cases where the female breasts are affected in cynanche parotidœa, that the influence on them may be secondary to some primary disturbance of the ovaries, though this may not be disclosed by any palpable symptoms referred to the latter organs themselves. The analogy between the testes and the ovaries, and the sympathy of the breasts with the ovaries, are in favour of this hypothesis.

Poole, May 1849.

CASES OF
ORGANIC OBSTRUCTION IN THE COLON,

FOR WHICH M. AMUSSAT'S OPERATION WAS PERFORMED.

By D. W. Crompton, Esq.

A short, rather thin man, aged about 36, who was in constant employment as gardener and coachman to a gentleman residing near Birmingham, was brought into the General Hospital, August 1846, under the care of Dr. Evans, who had previously attended him in consultation with Mr. Bracy, whose patient he was. I learnt from the man that a week before his admission into the hospital he had been unable to obtain relief from the bowels, though every means had been tried that Dr. Evans or Mr. Bracy could suggest. All that he knew of himself previous to the obstruction coming on was, that the day before, while mowing the lawn, he thought he had strained himself, and afterwards had

a motion slightly streaked with blood. He considered himself healthy before that, and had been in constant work without feeling pain: he believed that his motions were always large and well formed, and he was habitually regular in his bowels. I believe he had not long been married.

He was admitted on Sunday evening, when we found his abdomen distended, but not to a great degree. Injections had been previously employed, but were now repeated, and the water attempted to be retained by external pressure to the anus. Rectum bougies were used, of different sizes, but met with obstruction about the situation of the sigmoid flexure. O'Beirne's tube was tried, and once I thought it had penetrated, but I found that it had doubled upon itself. The obstruction gave the impression of being firm, and would not admit even the point of the bougies. The hand (a small one) was attempted to be passed into the rectum, but the rami of the ischia opposed its progress. Croton oil was given in single drop doses every two hours.

The abdomen was much distended, and becoming tense: there was dulness on percussion in the left lumbar region; resonance on the right side. I could not perceive more protrusion in one lumbar region than in the other. He made water freely, but it was thick and high-coloured. He had now been costive since the Friday week previous. The pulse was not much affected, and he did not express much distress.

On Monday morning he was about the same. Vomiting continued at intervals; the distension rather greater. The remedies were continued, and another water injection was tried, without success. Dr. Evans, whose patient he was, fixed to meet me again at 8 P.M. At 7 o'clock we received notes from Mr. Freer, the house-surgeon, to inform us that the patient had a collapse, for which he had given brandy and ammonia. We immediately went to the hospital, and found the man faint, with cold perspiration, and a pulse from 120 to 150, but no restlessness or complaint of pain. We waited till some reaction had taken place, and then he was carried into the operating room, and laid on his abdomen on pillows, the pressure of which upon his abdomen appeared to have the effect of pressing out great quantities of stercoraceous matter from the mouth. The pulse became very feeble.

I began M. Amussat's operation by making an incision in the left lumbar region, about an inch above the crest of the ileum, a little nearer to the spine than was necessary, and carried it outwards through the skin and fat to the extent of four or five inches, laying bare the fibres of the latissimus dorsi, which I divided, and then the quadratus lumborum, till I came down to the anterior fascia, which was carefully cut through; and then a quantity of fat appeared, which I removed by pulling it and cutting it, till a dark bluish membrane came into sight. We were uncertain as to what it might be, as some such membrane I had seen in Mr. Field's case, which proved to be only a membrane covering more fat: however, I thought it prudent to pass an armed curved needle through it, lest it should be the bowel we were in search of,—and such it proved to be; for, as soon as the needle had penetrated it, a quantity of gas and liquid fæces spirted out. Having secured the bowel by two sutures to the sides of the wound, I made a longitudinal incision between the upper and lower suture, which allowed a basinful or two of fæces to escape; and the man was carried to bed and laid on his back. He never expressed the least pain,—partly, I think, from the depressed state in which he was. Brandy and beef-tea were given him, and hot flannels applied, but in five hours he died.

The operation, though late at night, was performed in the presence of Dr. Evans, Mr. Field, Mr. Clarkson, and many others. To the two last-named gentlemen I felt much indebted for having kindly invited me to witness their operations, which, singularly enough, had only recently occurred.

On a post-mortem examination, we found the distension of the abdomen gone. On opening the abdominal parietes, the small intestines presented a slight blush, and at the contiguous margins there was the red line of commencing peritonitis, with here and there a very fine layer of lymph. On removing the small intestines altogether, the colon was well seen,—distended, but not impacted; the descending colon looked as if drawn backwards

at an angle about ten or eleven inches above the sigmoid flexure. There was no effusion of any kind, or appearance of inflammation about the bowel or wound. The descending colon, with the wound on the parietes still adherent, was removed with the rest of the bowel to the anus, and slit up, when it was found that at eleven inches from the anus there existed a firm contraction of the peritoneal coat, as if a whip-cord ligature had been tied round it. On the mucous surface there was an ulceration, with thickening to about the third of an inch; and still lying upon the ulcerated surface were a number of currant seeds. The opening made into the bowel by the operation was just ten inches above the strictured part.

The other organs of the body (the head not being examined) were healthy.

This is an instructive case in many points. The want of symptoms such as to draw even the patient's attention to himself before the obstruction actually took place is remarkable, though, I believe, not singular. The man himself and his wife (of whom I made particular inquiries) were both confident that he enjoyed good health, though he had never been robust, and had become, his wife thought, rather thinner lately.

The period, comparatively short when compared with many recorded cases of a similar nature, at which death took place, ushered in by so sudden a state of collapse, leads one to be cautious of delaying any relief that an operation may possibly afford. I cannot help thinking that, had we not been led to hope, from the previous history, and the calm state in which the patient lay, that there was a probability that the obstruction was not of such a nature but that relief might take place by natural means, an operation performed earlier might (at least) have prolonged this man's life.

Another curious speculation may be entered upon, as to whether the stricture in the bowel (which I cannot quite believe to be cancerous) would, when relieved of the constant irritation of the fæces passing through it, and resting upon the ulcerated surface, have altered its state, and the ulcer have healed; and whether, if such had happened, contraction would have gone on to even a greater extent, or (as is supposed by some that the urethra does in somewhat similar circumstances) tend to a restoration to a healthy and natural state.

I think it probable that the currant seeds were the proximate cause of the final obstruction, as I can easily conceive that they would produce by their presence as much contraction as such an altered state of the bowel admitted of.

I remember seeing a case some years ago with Mr. Kimble, of Knowle, of obstruction which ended fatally after immense distension, and I think, at last, of rupture of the bowel,—in which, on examination, a tumor of a fungoid character surrounded the colon, producing contraction of the calibre of the bowel; and the proximate cause of obstruction was a small piece of mutton bone, which had passed down to the stricture, and there falling flat over it, completely prevented all egress to the fæces.

A method of diagnosing the seat, if not the nature, of obstruction in the bowels, is of great importance; but I believe that at present we do not possess one. A stricture at the sigmoid flexure is comparatively easy of access, and, when ascertained (supposing that an operation is decided upon), fixes the situation at which it is to be performed—namely, the left lumbar region, by which we give the patient the benefit of the greatest extent of surface of intestine that is possible,—thereby, I suppose, increasing his chance of continuance of life; for it can hardly admit of question that a man is more likely to continue to live with an opening in the left lumbar region, than if the ascending colon or cæcum were opened.

With respect to diagnosis as to whether the obstruction is in the small intestines, or in the colon (besides the quantity of urine secreted, so much insisted on by Mr. Hilton and others), if we might form a judgment from a single case, in which an obturator hernia existed on the right side, undiscovered till after death,—which case I saw with Mr. Hill, there was not at any time the great distension on either side in the colon that existed in the three cases in which Amussat's operation was performed in Birmingham, and which will, I hope, be recorded ere long.

In the case of Mr. Hill's patient (an

old woman), we could trace the small intestines, like thick bell ropes, coiled about in the abdomen, and could even see their position through the parietes. Injections were used in this case, but returned, and the "rectum tube" was attempted to be passed, but without success. At one time it was thought probable that M. Amussat's operation might be necessary, from a supposition that the obstruction was in the colon; but I could not satisfy myself that the obstruction existed in *that* portion of the bowels, on account of the different appearance of the abdomen, and so the post-mortem proved; for the rectum was found to be greatly relaxed, and folded, as it were, upon itself: but no obstruction existed, except where a knuckle of small intestine was strangulated in the right obturator foramen. When, however, tympanitis, consequent upon peritonitis, has supervened, these distinctive marks (if experience proves them to be such) cease to be appreciable, and at such a period any operation would probably be fruitless.

Trismus, Tetanus, cured spontaneously(?)

James Bevis, æt. 18, was admitted into the hospital Jan. 10th, 1849. He states that on the preceding Wednesday week, he was riding in a cart, when the horse ran away, and he was thrown out. He fell upon his head, but was not stunned by the fall; he was carried home, and a medical man saw him. The wound appears to have gone on well until within three days ago, when he began to complain of pain on each side of the face, with stiffness of the muscles in that region. In this state he was sent to the hospital, and on examination I found a lacerated wound of the scalp, about an inch wide and six inches long, extending in an arch over the surface of the temporal bone or thereabouts, on the left side, and extending down to a little above the mastoid process. The wound seemed to be pretty healthily granulating, but exposing part of the cranium. He complained of great pain over the right side of the face, and, on further observation, it was apparent that the seventh pair was paralysed, the boy being unable to close his eyelids; and his mouth and nose were drawn to the left side: the eyelids of the left eye being so much drawn together as nearly to close the eye and wrinkle the integuments on the outer angle. This is particularly the case when he attempts to speak or open his mouth: the latter he is unable to do to more than the extent of a quarter of an inch. He has pain and stiffness also at the back of the neck. Pulse good, 70. Ordered all the plasters to be removed, and a large bread-and-water poultice to be applied to the wound and side of the head. Liq. Opii sed. ℥xx. h. s.; beef-tea, an egg, and a glass of wine daily.

20th.—The wound looks cleaner, but the granulations are pale and flabby, with their unhealthy secretions from it. Is not in so much pain, and slept well during the night. The boy has a healthy, ruddy appearance, and though short for his age, and backward as to puberty, is muscular, and seems to be remarkably cool and collected. Pulse 70; tongue clean as far as we can see it; bowels open. ℞ Hyd. c. Cret. gr. ij.; Pulv. Dover. gr. iij. 3tis horis. —Evening. Bowels open; the muscles of the face still rigid, particularly on being agitated when attempting to speak, or to swallow.

21st.—Continues much the same; bowels opened freely by an injection of turpentine and castor oil. Continue the same diet and medicines. The glottis is evidently affected on endeavouring to swallow even liquids. Ordered a feeder, and I desired him to take nourishment whenever he could, if only a teaspoonful, and frequently to do so, especially when he felt quiet.

22nd.—In the morning about the same; complains of stiffness in the neck, and the left eye is spasmodically closed; the mouth drawn strongly upwards and outwards if he is much spoken to, or if he attempts to speak. The voice, also, is squeaking, yet the countenance at other times is not bad, and he tries to read.

23rd.—The spasms become more general and severe, so as to produce opisthotonos: the fascial spasm has also increased, the right side remaining the same as to the paralysis; the secretion from the wound still scanty and watery. Ordered injections every three hours of Liq. Opii Sed. ℥j. in gruel, and to leave off any medicine by the mouth. Two glasses of wine daily. I now lost all hope of recovery, yet his countenance was not so anxious as I have often seen it when fatal disease has set in. He employed himself nearly all

the day in very gently insinuating the mouth of the feeder (which was almost always in his hands, and supplied with beef tea or wine) between his teeth, and then taking his opportunity would swallow a mouthful, or rather a tea-spoonful. I hardly ever saw him without the feeder in his hands. At other times, he read, holding the book, and resting his hands on the bed. When asked a question, the excitement invariably caused increased spasm. I once tried to give him chloroform, but so severe and prolonged a spasm of the glottis was produced by it, that I was on the point of opening the trachea with my bistoury, when he obtained one gasp of breath and lived again. Warm water dressings were applied to the wound, as being most easily removed or applied. For two days we dare not touch them, the opisthotonos produced by our approach being so severe. I had him, however, removed from the large ward—though at great risk, on account of the violent spasm—into a small darkened ward, with only two other patients in it. All remedies were abandoned, and he was left to his own management. The slightest excitement produced spasm at any time, and his attempts to feed himself often failed, but he waited, and again persisted. I have seen him hold the feeder for more than a minute between his lips before he felt able to make the necessary deglutition.

Feb. 12th.—He had gradually improved, though the rigidity about the jaw still continued; he has been able to take a colocynth pill occasionally, which has kept his bowels open. Voice still squeaking, though his countenance is improved. Ordered beef-tea, three glasses of wine daily, and arrow-root, which he takes with appetite.

17th. — His bowels have become rather constipated, for which I ordered Hyd. c. Cret. gr. viij.; Pulv. Dover. gr. iij. Castor oil to-morrow. Dr. Eccles saw the boy with me, and we asked him more questions than usual, as we thought him improving; but we had scarcely left the ward, when the nurse followed, and said that she thought the patient was dying, "he was so ill."

Dr. Eccles went to see him, and found him in a state of opisthotonos, which went off, and it was the last attack he had. The evacuations from the bowels were dark, and I therefore continued the use of the powders for four days.

24th.—I dressed the wound with water dressings, covered with oil-silk, and I observed that the boy, who had been up for some days, and had even volunteered to carry up potatoes, &c. to the patients, gaped four or five times during the dressing, and, as it appeared to me, involuntarily. This was the last symptom I saw of any nervous irritation.

The wound was closing, and the discharge had become quite healthy.

March 23rd.—He was made out-patient: he had gained flesh and health, and appeared well in every respect. The apparent paralysis on the right side, and the contraction of the muscles on the left side of the face, had quite subsided.

PHARMACEUTICAL SCHOOL DINNER.

THE gentlemen who have been educated at the School of the Pharmaceutical Society, with the Council, the Board of Examiners, and other leading members of the Society, and their friends, dined together at the London Tavern, on Tuesday, the 17th inst., Dr. COLLAND presiding on the occasion. The object of the dinner was to commemorate the seventh year of the existence of the School, and to promote pharmaceutical education by diffusing a more general interest in the subject. The Chairman, in proposing the several toasts, pointed out, in a very forcible manner, the benefits which have already been conferred upon the chemists and druggists, the medical profession, and the public, by the improved system of education, which forms one of the principal objects of the Pharmaceutical Society. He expressed his opinion that no measures of recent introduction were calculated more largely to contribute to the advancement of medical science than those which the body of pharmaceutists have adopted for improving the practice of pharmacy in this country; and he predicted that ere long the legislature would be induced to recognise these laudable efforts for the reformation of an important department of medicine, and to render education and examination necessary to the chemist and druggist.

The company consisted of about a hundred and forty, including several medical and other scientific gentlemen, who appeared to be highly gratified with the zeal and good feeling displayed by all present, and with the liberal entertainment provided by the stewards.

MEDICAL GAZETTE.

FRIDAY, JULY 20, 1849.

In a recent number* we published the new Curriculum which has been issued by the Society of Apothecaries, comprising the regulations to be observed by students intending to qualify themselves to practise as apothecaries in England and Wales, from and after the 1st of October, 1849. It is clear from the publication of this document that the Society have no apprehension of the immediate dissolution of their body, since some of the regulations will not come into operation until the summer of 1851 and the spring of 1852. The new regulations will of course apply only to those students who enter to the schools after the 1st of October next.

In one respect we observe an improvement in the curriculum. The precise *number* of lectures for each subject is not made a matter of vital importance. Under the old regulations it was laid down that Materia Medica could not possibly be taught in less than one hundred lectures, or Botany in less than fifty. It mattered not whether by long experience in teaching one man had acquired the happy facility of imparting the requisite amount of information in seventy or eighty lectures in the one case, or in thirty in the other; the Society deciding by the *number*, irrespective of the *quality* of the lectures or the ability of the teacher, treated the certificate as inadmissible. Henceforth, if we are to judge by the letter of the new regulations, medical teachers will be left to exercise a judgment on a subject which closely concerns themselves and the interests of their pupils. Nothing can be more absurd than to suppose that the amount of information conveyed, is in a direct proportion to the number of hours and days occupied by the course. We believe that this system of perpetually interfering with the details of teaching, on the part of men who have not the least practical acquaintance with the art of teaching, has been productive of much mischief; and we are therefore glad to perceive that in the new régime this vicious part of the old plan has been abandoned.

Lecturers and students are, however, still under a sort of scholastic discipline: the former appear to be regarded as ushers in a school, and the latter as little boys who must go through one Latin or Greek author before they venture to take up another. On no other principle can we explain the fact that the Society still retain in their curriculum what they denominate "a prescribed order of study." We can understand the propriety of their drawing up a plan of study, and of their insisting upon an attendance at Midwifery lectures *before* cases are actually attended—and at chemical lectures *before* the pupil takes his course of special instruction in the laboratory; but we are quite at a loss to comprehend why, when other Examining and Licensing bodies, like the University of London, the Royal College of Physicians, and the Army and Navy Boards, are satisfied with the proofs of attendance, this Society should insist upon certificates of attendance only *at particular periods*, which may be most inconvenient to teacher and pupil. It would thus seem as if the Society were desirous of particularly ascertaining, not whether a man could distinguish drugs, and describe their medicinal properties, but whether he had acquired this knowledge in *summer* or *winter!* Hence-

* Medical Gazette, July 6, p. 42.

forth, if he dare to make himself acquainted with this branch of his professional studies during the *first* winter as heretofore, that knowledge will be of no avail; however well-informed he may be on the subject, his certificates must be searched, in order to ascertain whether he has acquired this knowledge "in the prescribed order," *i. e.* at that season of the year when, according to the new curriculum, a knowledge of drugs can be taught and acquired! If the "prescribed order" means anything, the Society must in such a case reject the certificates, and send back the candidate, not for the purpose of improving his knowledge of drugs, but in order that he may receive a series of lessons during the summer. This order respecting the lectures on Materia Medica is likely, we are credibly informed, to lead to the resignation of several teachers of long standing and great repute in this metropolis. One, we know, has already resigned, and others, whose names have been mentioned to us, are likely to follow his example. Have the Society duly considered the practical effect of the new regulations? Lectures on Materia Medica must for some time to come occupy the time of the Lecturers in double courses, *i.e.* during winter and summer: their pupils have been divided into two sets by the Society; the ante-1849 men may demand a winter course, and the pupils of next October will require a summer course. Thus while the new pupils will not be in the slightest degree benefited by the change, the lecturers will have to deliver two distinct courses to two half classes; and while receiving no greater amount of fees, they will be kept incessantly at work for ten months in the year! But the mischief does not end here: the student may register his ticket for the summer course, but he cannot be compelled to *attend* the summer lectures. If other arrangements interfere, he must resort to the art of grinding for the supply of that information which, if left to himself, he would probably have procured in due course from the Hospital teacher. The regulation is therefore damaging to both lecturer and student. It compels the former to deliver lectures which the latter—if the period prescribed for study be inconvenient to him—may easily evade attending.

A new feature in the regulations is, that Practical Chemistry, including Practical Toxicology, is intended hence forth to consist of a specific course of instruction in the Laboratory, with an opportunity of personal manipulation; but here, again, the option of the period at which he should attend this course is taken from the student. The students of October 1849, must, according to this scholastic curriculum, enter the Chemical Laboratory only on the 1st May, 1851, and at no other period. We will concede the point that Chemical lectures should be first attended, but we would beg to ask any one of the twelve examiners, for what reason would they deny to a pupil the opportunity of attending Practical Chemistry either in the summer or winter of 1850? If a student by great industry can at either of these periods find time for taking up this study, which he may be prevented, perhaps, from pursuing in "the prescribed order," why is he to be denied the opportunity? Such an order is a palpable absurdity. We have it, however, in print, that a knowledge of Practical Chemistry counts for nothing with the learned examiners, unless it be acquired from and after the 1st of May, 1851! But the evil extends further than this. According to the Society, every Medical School must now provide a laboratory with apparatus

for the special instruction of—we will assume—from eighty to one hundred pupils. Such a laboratory will require an additional teacher or professor, with necessary assistants. The chemical manipulations of the students are only lawful from the 1st of May to the 31st of July in each year, and the whole of the demonstrations must be gone through in this period by each student, who must be exactly of two years and three months' standing, and neither more nor less! What is to be carried on in the special laboratory during the remaining nine months of the year, is not stated in the regulations. We presume that the plan, if it works at all, will give rise to a race of job-teachers and job-assistants, whose services may be hired for the short Apothecaries' season of Practical Chemistry, and thereafter dispensed with. The Society cannot suppose that lecturers on chemistry in the metropolitan and provincial schools are so overpaid that they can maintain in idleness for nine months of the year an additional professor or assistant; and although a fee would necessarily be attached to this new course, yet the amount of this ought not to exceed what may be a fair remuneration for the additional time devoted to teaching, and the additional expenses necessarily incurred. It cannot be expected that students should pay in their fees the salaries of a teacher and assistants, whose services are required for only *three months* in each year; and the lecturers are, as a body, certainly not able to undertake the expense of paying them for doing nothing during the long Apothecaries' vacation. It therefore only remains for the Society to make an annual grant from their funds, for the express purpose of carrying out a very unnecessary regulation in their own peculiar way.

Seriously speaking, this curriculum requires immediate revision. If enforced, it will work to the injury of teacher and pupil. If the Society will turn to the regulations of the University of London, they will find that while attendance on Practical Chemistry is properly demanded, the period of attendance is left open to the student. The Army Medical Board requires proof of six months' attendance on this subject; and the Navy Medical Board, of three months. Summer and Winter Sessions are disregarded; for such a system is nothing more than tying the fast to the slow, and binding the industrious to the idle. Why the Society of Apothecaries should take upon themselves to lay down a prescribed order of study, which, like an Imperial ukase, or a Chinese rescript, must be obeyed to the letter, it is difficult to understand. The organization of the medical schools is such that no prescribed order of study is now required. If three years' attendance and study be demanded, we do not see why, with the few exceptions mentioned, a student might not be left to his selection of the period of study by the Society of Apothecaries, —as well as by the University of London, the Royal College of Physicians, the Army and Navy Boards, and other licensing bodies. It is our opinion that the summer-lecture system has not worked well. The tickets may be duly registered; but, making due allowance for the decadence of the schools, the attendance is not such as it was when winter courses only were delivered. There are during the summer season too many temptations to indulge in idle pleasures, not to mention that many hard-working students are exhausted by the previous winter's labours. The pause of one month from October to August is not sufficient. The Society has now added to the amount of work already imposed upon

teacher and student, and, as we think, most unnecessarily; for they might equally have carried out their views of improving the status of the practitioner, by following the example of the University of London. Let "the prescribed order" be at once abolished. Lay down a rule that medical education shall extend over a certain number of years,—it may be three or four; and leave it to the student to acquire the different branches of professional knowledge at those times when a convenient opportunity may occur to him. The regulations of the schools, which are now for the most part entered by consolidated fees, and his own judgment, will prevent him from attending too many subjects at any one time. The inducement to this must, indeed, cease when he knows that he must pass at least three years at the school. In our opinion summer lectures should be entirely abolished. The medical session should commence in October, and terminate on the 30th of April; and instead of three winter sessions of six months and two summer sessions of three months, let there be three winter sessions of seven months. This would diminish the period of attendance on lectures by only three months, but it would give ample time to the student for obtaining information on those numerous branches of medical science on which lectures are now delivered. If the present scholastic system has appeared to work well, it has been in spite of its anomalies and absurdities. The Society believe that the registration of tickets, and the signatures on their printed schedules, furnish unimpeachable evidence that the lectures have been attended in the prescribed order; but those acquainted with the subject of medical education know that in drawing this inference they are labouring under a great delusion.

It is with regret we perceive that the deaths from cholera in the metropolis have during the past week undergone an alarming increase. They amounted to 339; and as the surplus mortality for the past week was 361, it will be seen that the increase of deaths above the average, is mainly due to this formidable scourge. This second invasion of the disease commenced about six weeks since, and during this period the deaths from cholera have been in each week respectively, 22, 42, 49, 124, 152, and 339. The deaths are, it will be perceived, more than double the number of those registered in the preceding week; and they exceed those returned in any week during the prevalence of cholera in the summer of 1832. This number of deaths indicates probably not less than 1000 attacks; but it is impossible to determine, even approximately, the number of cases which occur.

Two-thirds of the fatal cases have been observed among persons who had reached the adult period of life. Thus, there were—

Under 15 yrs.	15 to 60.	Above 60.		
102	192	45	=	339

About one-third of the fatal cases occurred in the districts of Lambeth, Rotherhithe, and Bermondsey, and on the whole, the southern part of the metropolis has been much more severely visited than the northern.

Of the 728 deaths from cholera, recorded during the last six weeks, there have been 435 males and 303 females. Of this number, 387 died on the south side of the river, and only 101 in the west and northern districts. There is, however, no part of the metropolis which has not been visited by the disease; and from the weekly increase of deaths, we are not yet able to say that it has reached its maximum. Compared with other great cities this me-

tropolis has hitherto suffered little. The deaths in Paris during a single day, when the disease was at its height, were twice as numerous as those registered in London during the whole week.

We have also to remark that diarrhœa is at present very prevalent and fatal to the infant population.

LECTURES ON THE PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

Delivered at the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture V.

Repair of Fractures—Differences between the process in man and that in lower animals. Absence of provisional callus in the repair of fractures in man. Evidence from cases of complete repair, and of repair in progress. Position of the reparative materials in fractures in the human subject. Probable reasons of the differences in the two processes.

Modes of Ossification of the reparative material. Natural modes of ossification: through cartilage and fibrous tissue. More numerous modes in the repair of fractures. Usual characters of the new bone, and its later changes. Arrest of the reparative process.

I shall not endeavour in the present lecture to treat fully of the Repair of Fractures. No one acquainted with the extent of the observations already made on this subject, and with the reputation of those who have been occupied with them, will blame me if I almost limit myself to the endeavour to explain only two or three points in the history of the repair of injured bones. The chief points that I have chosen are—1st, the particulars in which the process of repair of fractures, observed in the human subject, deviates from that described from experiments upon lower animals; and secondly, the nature of the reparative material previous to its ossification.

On the first point, I must express my conviction that the description drawn by Dupuytren and others, from examinations of fractures in dogs, rabbits, birds, and other animals, cannot be applied without great deductions to the case of fractures in the human subject. True as the pictures are of the cases of the animals examined, they are exaggerations of the process in our own case. With a few exceptions, all that is written in these accounts of external and internal, provisional and definitive, callus, of the formations of cartilage and bone within the medullary tube and beneath the periosteum, can be traced only, as it were, in rudiment in the fractures of the human bones.

My impression of this was first obtained while describing the large collection of fractures for the Catalogue of the Museum of the College.

With the concurrence of Mr. Stanley, who had long held a similar opinion,* I then wrote—"There is scarcely a specimen in the Museum of such a provisional callus formed in the repair of a fractured human bone; in nearly every case of such fracture, the material of repair, whether cartilage or bone, is only inlaid between the broken surfaces, or between the adjacent parts of the fragments, and unites them by being fixed to both. In favourable conditions this appears to be the usual mode of repair, even though the fragments of the broken bone be very much displaced."

"But the formation of a provisional callus, completely encircling the broken ends and adjacent parts of the fragments, is usual in the repair of fractures of the bones of other mammalia, and of birds. . . . A similar, but less perfect process is also shown in the accumulations of cartilage or bone which are often formed about fractures of the ribs, and of some other bones in the human subject, the fragments of which have not been held steady. It is probable, therefore, that the difference between the modes in which fractures are commonly united in man and other animals respectively, depends in part on the movement to which the fragments are subjected in the latter,—but, probably, in part also on the greater readiness with which, under all circumstances, bone is formed in the animals lower than man."†

Since that was written, I have examined many more specimens, and find the same rule true—namely, that in the ordinary repairs of simple fractures in the human subject, the reparative material, or callus, is merely inlaid between the several fragments: it fills up the interspaces between them and the angles at which one fragment overhangs another; but it does not encircle or ensheath them, in the manner implied in the description of provisional callus: nor is it in any considerable quantity, if at all, deposited either

* Since the delivery of the lecture, Mr. Stanley has published his account of the Repair of Fractures in the descriptions of his beautiful "Illustrations of the Diseases of the Bones," p. 27.

† Pathological Catalogue of the Museum of the College of Surgeons, vol. ii. p. 37.

beneath the periosteum or within the medullary tube. In birds, dogs, and other ordinary subjects of experiments, the formation of a provisional, or, as it may, perhaps, be better called, an *ensheathing* callus, is usual. It is illustrated by numerous specimens on the table; yet even in animals it is not constant. To obtain what would be called good specimens of provisional callus, the injuries must be inflicted upon young animals, and among these I cannot but suspect that particular instances have been selected for description,—those in which less callus was formed having been put aside as imperfect instances of repair, though, in truth, they may have displayed the more natural process.

For fractures in the human subject, the evidence that union is accomplished by the reparative material being placed between, not within and around, the fragments—*i. e.* as an intermediate, not an ensheathing callus—this evidence may be obtained by the examinations of such fractures even long after they are completely healed. In as many as you like to examine you will find the new bone formed exclusively between the fragments. Whether they were in apposition, or nearly so, or wide apart, still there is no appearance of new bone being formed on the outer side of any fragment,—I mean on that side which is turned away from the other fragments. And this is the case even in those instances in which there is so much displacement of the fragments, and so much distortion, that we can hardly suppose the repair to have proceeded very quietly. Neither in any of these do you find new bone within the medullary tube. It may be objected by some to these specimens, that the fragments were once ensheathed and blocked-up with callus, and that it has been since absorbed. But this is not probable, seeing that in many cases there remain, on the outer surfaces of the fragments, certain marks of their original form and slight irregularities. In one of the specimens which I present,* we have traces of the healing of a long fissure, which appears now as a sunken groove, making it nearly certain that no new bone was formed over it. In another, is a detached piece of the wall of a femur turned quite round, so that its periosteal surface lies on the periosteal surface of the principal fragment; yet on the outer surface of this piece (which was the inner surface of its wall) the thin plates forming the boundary of the medullary tube are still unchanged.†

But if any deem these and the like characters insufficient to prove the absence of ensheathing callus, and of callus extending into the medullary tube, yet recent specimens are not open to such doubts. I add, therefore, that (with the exceptions presently to be mentioned) in all the specimens of fracture that I have been able to examine, in the human subject, within six months of the time of the injury, there has been the same absence of provisional or ensheathing callus. The specimens here present are—a radius, four weeks after the fracture*; another, four or five weeks†; a tibia, five weeks‡; a femur, six weeks§; another of the same date‖; a third, I should think, about eight or nine weeks¶; a radius, of somewhat later date**; a tibia, eight weeks††; a fibula, eleven weeks‡‡; a tibia, twelve weeks§§; and a tibia, sixteen weeks after the injury.‖‖ Here are, also, others of various but unknown dates, all in process of apparently natural repair. All these were cases of simple fractures, and they include (with a few exceptions presently to be mentioned) all the specimens of such recent fractures, in the human subject, as are in the Museums of the College and of St. Bartholomew's Hospital. The displacements and other conditions following the injury have been manifestly various; but all agree in this,—that the fragments are united by intermediately placed reparative substance, and that this, whether soft or osseous, in no case surrounds or ensheaths the fragments, or does more than just close in the medullary canal. When present in the largest quantity, it is only enough to smooth off the chief irregularities, and to fill up the interspaces and the angles or corners, between the fragments.

Such, then, appears to be the natural mode in which the reparative material is deposited for the union of fractures of human bones. And, regarding the particular position which it may in each case occupy, I do not know that it can be more exactly described, than by saying, that it is deposited where it is most wanted for the strengthening of the bone,—so that, whatever would be the weak part of the bone, if unhealed, there is the new material placed, in quantity as well as in position just adapted to the exigencies of the case, and restoring, as much as may be, the original condition and capacities of the bone.

If now it be inquired why this difference

* Museum of St. Bartholomew's Hospital, Ser. 3, C. 5.

† Museum of the College of Surgeons, No. 454.

* Museum of St. Bartholomew's Hospital, Series iii. 94.

† The same Museum, Series iii. 95.

‡ The same Museum.

§ The same Museum.

‖ Museum of the College, No. 412-415.

¶ Museum of St. Bartholomew's, Ser. iii. 103.

** The same Museum, Ser. iii. 78.

†† From Mr. Lonsdale's Museum.

‡‡ Museum of St. Bartholomew's, Ser. iii. 80.

§§ The same Museum, Ser. iii. 67.

‖‖ Museum of the College, No. 438, and of St. Bartholomew's, Ser. iii. 113.

should exist in the corresponding processes in man and other animals, I believe still that it must be ascribed principally to the two causes already quoted from the Catalogue —namely, the quietude in which fractures in our bones are maintained, and the naturally greater tendency to the production of new bone which animals always manifest. Even independently of surgery, in the case of fractures of the lower extremity, the human mode of progression almost compels a patient to take rest; and in fractures of the upper extremity, the circumstances of human life and society permit him to do so far more than other animals can. The whole process of repair is, therefore, more quietly conducted; and, as we may say, there is comparatively little need of the strength which the formation of provisional callus would give a broken limb.

The exceptions to the rule of difference in the repair of human bones and those of animals confirm it as thus explained; for the only bones in which, in the human subject, a provisional callus is generally or naturally formed, for the repair of fractures, are the ribs. In cases of fractured ribs one may see, indeed, a very close imitation of that which is described, from experiments on animals, as the ordinary mode of union. The provisional callus is well formed under the periosteum, and encircles, like a broad ring or ferrule, both the fragments, and may almost completely ossify before their union is accomplished, or even apparently begun.

Another bone for the repair of which, but more rarely, callus is formed around the fragments, is the clavicle; and the best specimen in which I have here seen it is one* in which the fracture was not detected, and the fragments were allowed to move on one another, till the patient died twelve weeks after the injury.

Except in such cases as these of fractures not kept at rest, I doubt whether a natural formation of callus beneath the periosteum, or within the medullary tube of a human bone, would ever occur. In disease, the occurrence is not so rare; for, when the natural process of union fails altogether, the loose ends of the bones may be inclosed within a case formed wholly or in part of bone; or an imitation of callus may be made by a gradual morbid accumulation of bone around a fracture, even after its natural union.† (St. B. H. C. 29.)

But I think the comparative restlessness of animals is not alone sufficient to account for all the difference in the processes. The remainder may be ascribed to their greater tendency, in all circumstances, to the formation of new bone. Not in fractures alone, but in necrosis this is shown. It is very rarely that such quantities of new bone are formed in even children, as are commonly produced after necrosis of the shafts of bones in dogs or other animals; nor is there in the human subject any such filling up of the cavities from which superficial sequestra have been separated, as the experiments of Mr. Hunter showed, after such exfoliations from the metatarsal bones of asses.*

Other examples might be quoted; but these may suffice to show that, after injuries, new bone is formed more abundantly in animals than in man. And I hope enough has been said to prove that the generally received account of provisional callus, and other parts of the healing of fractures, is an exaggeration of what occurs in man. If it be asked what it is that is felt like a callus after fractures, I would say that, in such cases as I could examine after death, I have usually found that the overlapping ends of the bone, being both at once grasped, had been taken for the enlargement of callus. Sometimes, also, the thickening and induration of the parts around the fracture infiltrated with serous and bloody fluid, or with lymph, have been mistaken for it.

The next point on which I proposed to speak, concerned the structure of the reparative material thus deposited within the fragments. In reference to this, it seems essential that I should refer to those recent observations on the natural process of ossification, which have shown that bone is as commonly and as naturally formed through fibrous or membranous tissue as through cartilage.

Dr. Robert Nesbitt appears to have been the first who described the ossification of certain bones, especially those of the vault of the skull, as being effected in membrane. He did this, in 1731, in "two lectures, read in the Anatomical Theatre of the Surgeons of London;" for in these, which were afterwards published with the title "Human Osteogeny," he says, even in his title page, that "the general notion, that all bones are formed from cartilages, is demonstrated to be a mistake."

His account of the difference between the ossification of the bones of the skull and that of the vertebræ, the pelvis, and the bones of the limbs, is so far accurate, that it appears strange it should not have directed

* Museum of St. Bartholomew's, Ser. iii. 92.

† Museum of St. Bartholomew's, iii. C. 29.—In the same Museum (Ser. iii. 65-66), is a humerus, with a quantity of bony callus accumulated round a fracture of its shaft. It was taken from a man who died some weeks after the fracture, and whose arm had, for a long time after the injury, been the seat of severe spasms. See Mr. Stanley's "Illustrations of Diseases of Bones," Pl. xxiii. fig. 3.

* Museum of the College, Nos. 641 to 653.

subsequent inquirers much more than it did. But the distinction that he pointed out was, after his time, only occasionally insisted on ;* and till very recently the opinion generally accepted was,—that the bones of the vault of the skull are formed by the ossification of cartilage, and that their developement differs from that of the other bones only in this,—that there is no complete cartilaginous basis formed for each bone before ossification, but that cartilage is formed in the membranous coverings of the brain, just previous to the formation of the bone. Thus, *e. g.*, in the parietal or any of these bones in process of ossification, it was held that a thin border of cartilage might be always found projecting beyond the bone; and that at the same rate as this border ossified, so another, cartilaginous like it, would be formed in preparation for the next step of ossification; the formation of the cartilage only just keeping in advance of its ossification, till the formation of the whole bone was perfected. Such was the account given by E. H. Weber and Miescher, and adopted by Henle,† and, I believe, all anatomists of note.

But even while this opinion was gaining ground from observations in the Mammalian fœtus, doubts of its truth were arising from examinations, instituted by Von Baer, into the construction of the primordial cartilaginous skulls of fish. These inquiries, begun in 1822, were, however, little regarded till, in 1835, Dugès published his researches on the Osteology of the Batrachia. In these he showed that the skull of the naked, tail-less, Amphibia is originally entirely cartilaginous; and that the bones of the perfect skull develope themselves in part from the cartilage of the fœtal skull, and in part on the exterior of that cartilage, in the perichondrium. Thus he gave strength to the opinion which Von Baer had entertained of the developement of the skulls of fish, and directed the observations of many subsequent inquirers — especially of Vogt, Agassiz, Jacobson, and Rathke. I need not enter on the consideration of the various extensions into detail which these gave to the discovery of Von Baer. It may be sufficient for me to state, from an admirable memoir recently published on this subject by Kölliker,‡ that it is now proved "that in all vertebrata the bones of the skull are divisible into two categories: into primary bones, and secondary, overlying or tectile bones, of which the former proceed from the cartilaginous *primordial* skull, and are preformed in cartilage; while the latter are formed outside the cartilage, from soft blastema between the cartilage and the skin."

The bones included in each category he enumerates; but, for my present purpose, it is, perhaps, of yet more interest to add, that by microscopic examinations Dr. Sharpey has not only fully confirmed these views, respecting the ossification of the bones of the vault of the skull, but has added this important fact,—that the ossification by which the long bones increase in their circumference takes place, not in layers of cartilage successively formed beneath the periosteum, but in layers of fibrous substance: in short, that the peripheral growth of bones that are formed in the first instance by ossification of cartilage, is effected by ossification of membrane. In regard to the bones of the skull, observations similar to Dr. Sharpey's appear to have been made at nearly the same time by Spöndli and Kölliker; and, in regard to the long bones, Kölliker has not only confirmed Dr. Sharpey's observations, but has, more lately, added that the same law holds for the vertebræ, the ribs, and, in short, for all the other bones of the skeleton that are formed from cartilage, with the exception of the ossicula of the ear, which attain their full size in the cartilaginous state.

Thus, then, it will appear that the peripheral growth and ordinary maintenance of all bones, after the ossification of their primordial, and for a time growing,* cartilage is completed, is effected by the ossification of membranous or fibrous tissue. I would call it fibrous rather than membranous, because in some instances, as the patella and other sesamoid bones, and in the union of fractures, and the growth of some tumors, a mass of tissue, rather than a membrane, ossifies.

Thus much of preface seemed necessary to explain the cases in which the material for the repair of fractures is transformed into bone through the developement, not of cartilage, but of fibrous tissue.

What I have just said of the later growths of bones being accomplished by ossification of fibrous tissue, not of cartilage, might lead one to expect that all ossification for the repair of fractures, after the termination of the usual period for ossification through cartilage, would be accomplished through the formation of a fibrous substance. But it is not so: rather, in the examination of many specimens, one finds the new bone

* See Hildebrandt's Anatomie, i. 333.

† Allgemeine Anatomie, p. 831.

‡ In the Berichte vom zootomische Anstalt zu Wurzburg, p. 49.

* The cartilage probably grows between the chief mass and the epiphysis of a bone as long as the bone increases in length, its growth only just preceding its ossification: hence it may be said generally, that the growth of a bone in length is by ossification of cartilage,—its growth in thickness by ossification of fibrous tissue, as Kölliker says (p. 44). But when once the growth in length is completed, and the cartilage is exhausted, then all natural ossification, whether for common maintenance or for growth, appears to take place in fibrous tissue.

formed in some through fibrous tissue, in some through cartilage, in some through fibro-cartilage, or a mixture of the two; and, in yet further deviation from any single rule of developement, the bone may be formed through either cartilage or fibrous tissue, in either a rudimental or a perfect state.

The changes that ensue directly after a simple fracture are in accordance with what I have already described in relation to the general repair of injuries. A period of rest follows the injury; and for a week or ten days no change may be observed, at least in fractures in the adult long bones: and here, at once, is a point of contrast with the consequences of fracture in the lower animals; for these specimens,* showing the consequences of fracture of the tibia in rabbits six, ten, and fourteen days after the injury, prove that a perfect cartilaginous callus is in them formed in a shorter time than would elapse before the commencement of any distinct reparative process in man.

Especially, for contrast, one may notice the unchanged state of the periosteum round the broken human bones: for this, in ordinary cases, is neither raised by deposit beneath it, nor in any way altered—except, it may be, by slight thickening—during the whole healing of the fracture.

The first new material produced after simple fracture consists of the lymph and serum, which are effused in consequence of the inflammation that the violence of the injury excites. But these, as in the repair of other subcutaneous injuries, are presently overwhelmed and enclosed (as the effused blood also is) by the more proper reparative material. How this is placed I have already said. In a plan, wherein one cannot overlook the evidences of particular design and of appropriate purpose, it is inlaid between the fragments, wherever, when the limb comes to be used, the most new bone will be necessary for its strength. Thus, it may take the various forms of groins and buttresses, arches, beams, or bridges, according to the mode and degree of displacement of the fragments.

Thus placed, its developement proceeds. I cannot tell the conditions which will determine, in each case, the route of developement towards bone that the new material will take; nor whether the differences that may be observed are to be ascribed to the seat or nature of the injury, or to the condition of the patient. All these things have yet to be determined; and I believe that years of patient and well-directed investigation will be requisite for them. I can do little more than point out the modes in which the ossification may be accomplished.

And, first, it may be accomplished through perfect fibrous tissue. Thus I found it in a case of fracture of the lower part of the femur, and in a fracture of the radius; thus, too, I think, whatever new bone is formed after fractures of the skull is developed; and thus, too, one may find, in the neighbourhood of fractures and other injuries of bone, ossifications of inter-osseous fibrous membranes, and of the tissue of the periosteum, or just external to it.*

But, secondly, the bone may be formed by ossification of the fibrous tissue in a rudimental state. And this rudimental state may be that of either nucleated cells or nucleated blastema. Through nucleated cells, as the embryo-forms of fibrous tissue, bone is formed when granulations or inflammatory effusions ossify. The process may be often seen in the union of compound fractures, or of simple ones when much inflammation has been excited; but, best of all, the ossification of nucleated cells, in granulations, may be observed when bone is formed in the mushroom-shaped mass of granulations that is protruded through the medullary canal of a bone sawn across in an amputation. In all these cases there appears to be a direct transformation into bone, without the intervention of either cartilage or perfect fibrous tissue.

The ossification of nucleated blastema, such as I have described as a rudimental form of fibrous tissue, may also be seen in simple fractures; and my impression is, that it is the ordinary mode of ossification in simple fractures of long bones that unite well and quickly. In such a case, in a fracture of the tibia, I found, in long-continued examinations, that the bone is formed without any intermediate state of cartilage; a finely and very closely granular osseous deposit taking place in the blastema, and gradually accumulating so as to form the delicate yet dense lamellæ of fine cancellous tissue. The nuclei of the blastema appeared to be enclosed in the new-forming bone, and I thought I could trace that they became the bone-corpuscles; but I could not be sure of this, nor, indeed, could I, in either this or any other examination, satisfy myself that the origin of these corpuscles is in any structures previously existing in the soft or unossified tissue. Their first appearance in the forming new bone is too obscure, I think, to warrant any positive opinion; neither could I trace how the nucleated blastema, or other structure which is in-

* Museum of the College, Nos. 418, 419, and 420.

* The thin plate of bone which closes-in the exposed medullary canal of the end of a fractured long bone, where one fragment overlaps another, will usually, I think, present a good example of ossification of fibrous tissue.

cluded within the new cancelli, is transformed into the later and more perfect medulla; only, one sees fatty matter gradually accumulating.

Such are instances of the ossifications, for the repair of fractures, that may be accomplished through fibrous tissue; and all these are possible without the intervention of the smallest portion of cartilage.

But perfect cartilage, with its characteristic homogeneous intercellular substance, and its well-formed cells, and all the characters of the purest œtal cartilage, may be produced. Through the ossification of such cartilage, Miescher* and Voetsch,† and others, describe the repair of fractures as accomplished in dogs, pigeons, and other animals. I have not yet found the very same process in the human subject; but I should think it would occur in favourable instances of simple fractures in children. In youths and adults I have found only varieties of fibrous cartilage; but these have presented numerous gradations of structure, from the fibrous towards the perfect cartilaginous structure. In different specimens, or sometimes even in different parts of the same, the reparative material may display—in one, fibrous tissue, with a few imbedded corpuscles, like the large nearly round nuclei of cartilage cells; in another, a less appearance of fibrous structure, with more abundant nucleated cells, having all the characters of true cartilage cells; and in a third, a yet more nearly perfect cartilage. Through any of these structures, and apparently by the same method through all, the reparative new bone may be formed. It may be formed, first, where the reparative material is in contact with the old bone, and thence extending, it may seem as if it grew from the old bone; or it may be formed in the new material in detached centres of ossification, from which it may extend through the intervening tissues, and connect itself with the old bone.

The new bone, through whatever mode it be formed, appears to acquire quickly its proper microscopic characters. Its corpuscles, being first of simple round or oval shape, and then becoming jagged at their edges, subsequently acquire their canals, which appear to be gradually hollowed out in the preformed bone as minute channels communicating with one or more of the corpuscles. The laminated canals for blood-vessels, I think, are later formed. At first, all the new bone forms a minutely cancellous structure, much like that of the fœtal bones in their first construction; but this gradually assimilates itself to the structure of the bones that it repairs, while its outer portions assume a compact laminated structure, and its inner or central portions acquire wider cancellous spaces and a more perfect medulla. But, in regard to many of these later changes in the bonds of union of fractures, there are so many varieties in adaptation to the peculiarities of the cases, that no general account of them can be rendered. Only, specimens and drawings, one and all, show the most striking evidences of design in the adaptation of the reparative process to the particular exigencies of each case; so that it might be said, with complete truth, of every instance, that whatever is necessary,—whatever may best, under the circumstances, repair the damage,—that is done.

Let me, in conclusion, remind you how this account of the ossification of fibrous tissue, in the repair of fractures, illustrates the most usual condition of fractures of which the repair is incomplete. They are united by ligament—that is, by fibrous tissue: to the formation of this tissue the process goes on naturally, but at this point it is arrested; the fibrous tissue does not ossify, and its fibrous state, imperfect for the purpose of repair, is perpetuated.

* De Inflammatione Ossium, 1836.
† Die Heilung der Knochenbrüche, 1847.

Reviews.

A short Sketch of the Life and Writings of the late Joseph Clarke, Esq., M.D., &c.; containing minute results of his Private Practice, extending over a series of forty years, including three thousand eight hundred and seventy-eight births. By Robert Collins, M.D., &c. 8vo. pp. 88. London: Longmans. 1849.

It is not often that we meet with a medical biography which can claim an interest beyond the sphere in which its subject has lived and moved. But the reverse is pre eminently the case with the memoir before us, which records a life spent in the upright and unwearied pursuit of the duties of our profession, and presents us with the portraiture of one "of whom it may indeed be said, that, as a physician or as a friend, he was without guile," and whose useful life was closed by a Christian's death.

Brief as is this biographical sketch, it embodies many valuable facts, and conveys some important lessons. Passing over the more immediately personal portion of the narrative, we find

that, by Dr. Clarke's judicious hygienic measures, the mortality among the infants born in the Dublin Lying-in Hospital was reduced from one in six to about one in twenty; or, in other words, by his skill, he was the means, humanly speaking, of saving twenty thousand lives—surely a glorious result! His fellow citizens of Dublin may say of him—*Si monumentum quæris, circumspice!*

The following statistical data, as Dr. Collins justly remarks, cannot fail to interest, and afford most important practical conclusions to every experienced physician. We have arranged these in a tabular form, as being the readiest mode of presenting to our readers some points which we deem worth their serious attention. To these statistics, and the accompanying extracts, we must confine our notice of this valuable memoir, under the conviction that our obstetric readers will therein find sufficient to convince them that further recommendation on our part is not needed to induce them to consult the work itself.

Out of 3816 *single births, there were—*

Presentations, &c.		Children still-born.	Number of mothers recovered.	Proportion in private practice.	Proportion in hospital practice.
Arm	9	1	all	1 in 347	1 in 410
Feet	36	2	all	1 — 106	1 — 129
Breech	49	16	all	1 — 78	1 — 68
Placental*	9	2	all	1 — 427	1 — 1492
Accidental hæmorrhage	4	1	all	1 — 962	1 — 1262
Retained placenta—					
With hæmorrhage 7	25		all	both practices, 1 in 173.	
Without ,, 18					
Twin births	31	4	—	1 — 124	1 — 68
Face to pubes	33	1	all		
Face presented	7	4	all		
Prolapsed funis	6	3	all		
Convulsions—					
Before labour	1		both		
After delivery	1				
Protracted labour	18	3	all		
Of these were—					
Forceps case	1				
Lever case	1				
Deaths (3 from peritonitis; the others from independent causes)	22				1 — 175

"Such is a brief enumeration of the instrumental deliveries in Doctor Clarke's practice, extending over the long period of *forty-four* years, including *three thousand, eight hundred, and seventy-eight* births. This is in the proportion of one in 298, so that it is obvious he did not consider a frequent resort to instruments, in order to effect the *hasty* delivery of the patient, necessary to ensure safety, and that necessity alone ever induced him to use them. It may be observed he only used the forceps once, and that without completing the delivery. If we seriously reflect upon the happy results to the *mothers*, from the practice pursued by this distinguished physician, as regards the use of instruments, and then carefully examine the succeeding section upon children *still-born*, and find here equally happy results (as of the 3,816 *single* births, there were only *forty-two* children still-born of those that had arrived at the full period of gestation, or in the singularly small proportion of *one* in 91), we cannot fail to discover a number of *astounding* truths, sufficient to warn our *artificial* advocates, and make them pause until *they can supply* their professional brethren with a series of facts equally satisfactory." (p. 57).

"How seldom should most practitioners be found to use instruments, if the successful course pursued by Doctor Clarke were

* The disproportion which here occurs is accounted for by the circumstance of many cases of placental presentation, from their danger, and the distances of their residences being attended at their homes.

universally aimed at. Is it not worthy of our best consideration, with the invaluable statement before us, that, in an extent of practice in the upper ranks of life perhaps unexampled, there is *not one single instance of death* resulting from *laborious* or *protracted labour?* This is a practical *fact*, which ought to be carefully recollected, and seriously weighed, by most of our Continental brethren, who use instruments in every 5th, 10th, 15th, 20th, or 30th labour under their care, with the object of *expediting* delivery; as also by some of our own countrymen, whose unsound doctrines inculcating mischievous interference to promote *hasty* delivery, the unquestionable truths here recorded clearly demonstrate to be most unjustifiable and most uncalled for. Should not this inexpressibly important record for ever silence those who venture to publish crude and fanciful opinions, unsupported by any data from their own experience affording similarly happy results. It affords me infinite satisfaction to supply this truthful registry of facts for the universal and serious consideration of the profession These truths speak in language the most convincing, and must, when studied, leave an indelible impression." (p. 58-59.)

Healthy Skin: a Treatise on the Management of the Skin and Hair in relation to Health. By ERASMUS WILSON, F.R.S. Small 8vo. pp. 238. London: Churchill. 1849.

THAT this little work has reached a third edition within four years, is sufficient evidence to satisfy us that it has fulfilled the author's intentions in its publication. These were,—to direct the attention of non-professional persons to the importance of the skin as an organ of the first moment in the preservation of health, so far as the attainment of this object lay within their own reach. In working out his plan, the author presents to his readers a great mass of not only useful but also highly interesting matter.

Mr. Wilson's brief observations on some of the most common diseases of the skin, and their domestic management, are written in his usually clear and concise style, and though they may seem to trench upon the province of the physician, they, in truth, do not exceed the legitimate limits of popular hygiène.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, June 22, 1849.

DR. ADDISON, PRESIDENT.

Case of Wound of the Radial Artery, with consecutive Hæmorrhage, treated by ligature of the Brachial Artery. By H. B. NORMAN, Surgeon to the St. Marylebone General Dispensary, &c.

J. H——, aged thirteen, thrust his hand through a pane of glass on March 4th, 1848, and inflicted an irregular wound across the fore part of the arm, about an inch above the wrist, which bled profusely. At the dispensary, a compress was secured by a roller passed tightly round the limb, the bleedings having been previously arrested by some temporary measures. The arm became tense and painful in the evening, and the bandage was re-adjusted, less tightly. After the lapse of a fortnight, the wound having partly healed, bleeding recurred. On March 26, the boy lost blood again till he fainted; compress and bandage were still applied, and the inflamed parts around fomented. On April 1st, a third bleeding took place, and on the following day, the hæmorrhage returning, the author was requested to see the patient, and found the lower part of the fore-arm swollen, tense, and hot; a sloughy opening marked the spot whence the blood had issued, and the surrounding parts were "boggy." Compresses were re-applied above and below the wound in the course of the radial artery, and secured by a lightly-rolled bandage. The constitutional disturbance was augmented on the following day; the integuments about the wound sloughed, giving exit to bloody pus, and strong pulsations were distinctly felt over this part of the limb. The inflamed tissues were now freely divided, a poultice was applied, and a compress placed over the brachial artery. On the 4th, a further hæmorrhage determined the author to apply a ligature on the brachial artery, which was effected without difficulty. The constitutional disturbance continued for some time, but ultimately subsided, the lower wound assuming a healthier appearance, and the patient's diet being improved. The ligature came away on the eighth day, when both wounds were healing steadily. On May 2nd, both wounds were closed, and the boy was convalescent. The author remarks, that he regrets the wounded artery was not exposed in the first instance, and

its bleeding ends secured by ligatures. He admits that compression may sometimes be effective where it is immediately resorted to, and great care exercised in its employment; of such practice being successful he cites an instance. He considers the adoption of similar practice to that first referred to (viz. ligature at the seat of injury) in secondary hæmorrhage, a more open question; and observes that, in the case just narrated, the means seem to have been justified by the end, the circulation in both ulnar and radial arteries being arrested, and only restored subsequently in that part of the latter arte y which was below the seat of injury. After the application of the ligature, the temperature of the affected limb was 2° Fahr. below that of the opposite, on several occasions when the comparison was made.

A Case of Diseased Larynx, in which Tracheotomy was three times performed, and a portion of Necrosed, Ossified Cartilage was coughed up through the Artificial Opening from the Bronchus. By E. Humby, M.R.C.S.

T. H——, aged fifty-three, had passed the greater part of his life at sea, or in the West Indies. In April, 1845, having had syphilis two years previously, he took mercury, to relieve secondary pains, &c. In July, a severe cold he caught was accompanied by pains, sore throat, loss of voice, and dyspnœa. Active antiphlogistic treatment proving unavailing in relieving the last symptom, tracheotomy was performed, and a silver tube worn for a month. This was then dispensed with for three weeks, but the recurrence of dyspnœa required its re-introduction. Mercury was then rubbed in, the patient was kept in a room supplied with a constant jet of steam, and iodine was given internally. In July, 1846, the difficulty of breathing increasing, it was determined that the opening should be enlarged, and a wider tube introduced. This was effected with difficulty by Mr. Liston, in consequence of ossification of the rings of the trachea, which the bone forceps were required to divide. In October following, the author first saw the patient. He was then suffering from constant cough, with muco-purulent expectoration and great constitutional excitement, and with physical signs of mischief in the lungs, especially the left. On November 4th, Mr. Liston cut out a second piece of ossified trachea; and in a fit of coughing which followed, a large piece of necrosed, ossified cartilage (apparently a part of the cricoid) was coughed up. The patient died six days after this operation.

Autopsy.—The right pleural cavity contained three pints of turbid serum, with lymph. The left lung was partially consolidated. The upper aperture of the larynx was nearly closed; the bulb of the cricoid cartilage was absent; the rings of the trachea were ossified; and in the left principal bronchus was a fragment of necrosed ossified cartilage. The author considers the disease to have had its origin in the primary syphilitic affection, and remarks that the principal points of interest in the case are, the great difficulty attending the operation of tracheotomy in this instance, and the presence of the dead bone in the bronchus.

On the Minute Anatomy of the Sudoriferous Organs. By G. Rainey, Demonstrator of Anatomy in St. Thomas's Hospital.

The author observes that the epidermis is composed of two very distinct layers—a superficial and a deep layer; the former consisting entirely of epidermic scales, whilst the latter is made up wholly of epidermic cells, excepting where this layer is perforated by the sudoriferous ducts. These layers are distinguishable from one another by the dark colour of the deeper layer appearing to present an undulating border. The fact of only the cells being in one layer, and the scales in another, he observes, is contrary to the opinion generally entertained, that the epidermic cells, produced at the inferior part of this layer, become gradually and progressively changed into epidermic scales in proportion as they approach the surface. It also renders the explanation of the cause of the spiral course of the sudoriferous ducts more simple; for as in this layer the epidermic scales undergo no change in their structure, and but very little in their dimensions, the duct, being built up of these scales, must remain the same through the entire thickness of this layer, as when it first entered it. In the superficial layer of the epidermis the sudoriferous ducts are composed entirely of epidermic scales, so placed that the long diameter of each is parallel with the axis of that part of the passage into which it enters. This part of a duct is destitute of membranous parietes, being merely a passage between epidermic scales. In the deep layer of the epidermis the sudoriferous ducts are situated above, between flattened epidermic scales, with their long axes placed as before observed; and below, between epidermic cells in different states of development. Now, as some of the lowest of these cells are so imperfectly formed as scarcely to have the character of cells, it must follow that the part of the passage which is situated between such cells cannot have its parietes well defined; and there must be a part in every duct (where the cells forming it are just coming into existence) so imperfect, that the sweat, in entering it, will pass through little more than a

layer of blastema. It is for this reason that the most inferior part of a sudoriferous duct becomes so indistinct, that its termination in the dermic portion cannot be distinctly made out; and it is in this respect that all the delineations of these ducts which I have seen are incorrect, and convey an erroneous idea of their exact structure. The parietes of these ducts are represented as passing continuously from the dermis into the epidermis, the tube at this part being made to have the same diameter as elsewhere, whilst the fact is, that the lower portion of the epidermic part is conical, and narrowest below, being shaped like the end of a cork-screw; and the upper part of the dermic portion of the duct is rather conical also, but its base is above. The part of a duct which is situated between the cutaneous papillæ, contrary to what is generally stated, is, in the place of being straight, very much curved,—this being the part in which it gets its spiral form. The dermic portion of the duct is continued from the gland, in a flexuous course, to the dermis, where it terminates by the membrane of which it is formed becoming continuous with the basement membrane of the papillæ. It is lined by a layer of epidermic cells, which get gradually indistinct towards the gland. Respecting the spiral and conical form of the sudoriferous ducts, it is observed that this can only be acquired in the deep layer of the epidermis, since, in the superficial layer, the scales of which they are built up undergo little or no change after they have once been protruded into it, and the dermic portion of the ducts is totally of a different structure to the epidermic. The form which the ducts take in this layer is attributed to the changes which the cells here undergo, during their transformation from mere nuclei into perfect cells, and their subsequent conversion into scales; these changes being confined entirely to the deep layer of the epidermis. The ducts here become conical by the cells which bound them becoming more and more flattened, vertically, in proportion as they become pressed upwards, the space between them gradually increasing as they acquire the form of scales; besides, this part of a duct is situated in a conical space between the papillæ, where, at its inferior parts, the epidermic cells are much more crowded together than at its upper part. This relative difference between the number of cells, and the space containing them, would allow of their being more easily separated by the secretion passing between them, above than below Respecting the spiral form, the increase in the dimensions of the epidermic cells during their growth from nuclei to perfect cells, and their subsequent flattening and conversion into epidermic scales, would have a tendency so to alter the thickness of this stratum of the epidermis, as to throw the passages between its cells into a more or less zig-zag form, as the changes which take place during the formation of cuticle, as well as during that of other structures, do not proceed with perfect uniformity, but are doubtless more active at one period or in one state of the system, than in another. The author remarks, that it is probable the laminated form of the nails, the concentric osseous layers around the Haversian canals, and the length of the coils of the sudoriferous ducts, are the result of certain alternations of activity and repose of the processes by which they are formed. As there are no other glands in the skin of the hands and the feet, the author considers the sweat glands as those which furnish the oily or sebaceous matter with which these parts are anointed; and in the place of considering the sweat as an increase of the vapour, which is at all times given off from the surface as the insensible perspiration, he regards it as an increased secretion of these sebaceous glands; these glands being, in their less active state, sebaceous, and in their more active one, sweat glands. This must be the case in the hands and feet. The vapour which is exhaled at all times from the skin whilst in its normal state, he regards as the fluid in which the solid material of the cuticle was dissolved, in order that it might be in a fit state to pass through the coat of the capillaries: having become separated from the solid component of the epidermic blastema during the production of epidermic cells, and having penetrated the scaly layer of the cuticle, it would arrive at the surface in a minute state of division: the fluid part of the sebaceous secretion would doubtless form a part of this vapour.

On the Treatment of Pericarditis; especially on the Effects of Bloodletting and Mercury in that disease. By JOHN TAYLOR, M.D., Fellow of the Royal College of Physicians in London, and Physician to the Huddersfield Infirmary.

In this communication the author has analysed the forty cases of pericarditis, published in the Lancet in 1845 and 1846, in respect to the treatment of the disease. The cases are divided into two classes—first, those occurring in connexion with acute rheumatism, the subjects of which were previously in good health; and secondly, the cases occurring in connexion with renal disease, or in persons previously in a bad state of health. The patients in the first class, besides being in good health, were younger, and suffered from much fewer complications than those in the second class. Very few of those in the first class died, whereas all died in the second class. The conclusion from these facts is, that the age and

previous health of the patients, and the nature of the complicating diseases, have more influence upon the favourable or unfavourable termination of pericarditis than any differences in the treatment. The remedies whose effects are examined are chiefly bloodletting and mercury.

I. *Bloodletting.*—The conclusions arrived at are the following :—

1. The duration of pericarditis increases in proportion as the time is longer between the commencement of the disease and the first bleeding.

2. The duration of the cases bled after the first four days is greater by one half than that of those bled within the first four days from the invasion of the disease.

3. The influence of bleeding was more marked in the cases in which it was copiously and repeatedly, as well as early, practised, than in those in which blood was drawn less frequently and more sparingly.

4. Pericarditis is never extinguished at once by bleeding, however early, or however copiously practised.

5. In several cases the pericarditis was suspended for a limited time. The suspension in every instance was immediately consequent upon the local abstraction of blood.

6. It is probable that renal has a longer duration than rheumatic pericarditis.

7. Bloodletting must be less copious, and is more frequently inadmissible, in renal, than in rheumatic pericarditis.

8. Bloodletting probably lessens the mortality, inasmuch as it lessens the duration of pericarditis; but direct proof of the reduction of mortality is not to be obtained from these cases.

9. The abstraction of blood by venesection, cupping, or leeches, almost invariably relieved the pain at once, but not permanently. There is no reason to believe that any one form of bleeding relieved pain more effectually than another.

10. Bloodletting never lessened the frequency of the pulse, except when there were signs of the inflammation having abated.

11. The tendency to syncope in some cases of pericarditis, renders it necessary to be very careful in abstracting blood by venesection.

12. Free venesection for pericarditis does not always prevent the subsequent appearance of serious inflammation in other internal organs.

II. Mercury.

1. The cases in which mercury was given within the first four days had an average duration less by five days than those in which it was given later.

2. The cases in which salivation was produced within the first four days had an average duration less by two days than those in which it occurred later.

3. It is difficult to determine how much of the benefit was due to the mercury, because all the patients who took mercury were likewise bled, and in almost every instance the two remedies were first employed on the same day.

4. The author is inclined to the conclusion, that the benefit was due in greater measure to the bleeding than to the mercury —partly because the duration of the disease was more abbreviated in those who simply began to take mercury than in those in whom salivation was produced within the first four days. The administration of mercury coincided with the bleeding, but the salivation did not, and the results are just what might be looked for upon the supposition that the benefit was due to the bleeding, and not to the mercury.

5. If the production of salivation had anything like the marked influence in arresting inflammation, and in promoting the removal of its products, which it is currently believed to possess, the duration of the cases of pericarditis after salivation ought to have been much less than it really was. This is proved by a detail of the cases.

(*a.*) Salivation was not followed by any speedy abatement of pericarditis in sixteen cases.

(*b.*) Salivation was followed by pericarditis in five cases.

(*c.*) Salivation was followed by an increase in the extent and intensity of the pericarditis in three cases.

(*d.*) Friction-sound ceased two days before the mouth became sore in two cases.

(*e.*) Salivation was followed by a speedy diminution of the friction-sound in two cases: it did not cease, however, for some days after.

(*f.*) The pericarditis ceased soon after salivation in two cases: in one of them, however, it had been declining for some days before.

(*g.*) Mercury was given, but no salivation was produced in seven cases.

(*h.*) No mercury was given, nor other treatment adopted, in eight cases.

(*i.*) Cases are detailed exhibiting the occurrence of various internal inflammations during the time that salivation was proceeding. The cases comprise examples of endocarditis, pleuro-pneumonia, pneumonia, pleuritis, erysipelas, and rheumatism.

A conclusion rather adverse to the antiphlogistic powers of mercury having been drawn from the facts narrated, the author next examines the evidence upon which the contrary and more prevalent opinion is based, and infers that the evidence is not satisfactory. In the course of this examination,

some remarks are offered upon the necessity for the application of the "numerical method" in therapeutical inquiries, and, also, upon the difference, and its results, between the practice of French and English physicians, in inflammation of serous membranes.

Case of Chronic Hiccup and Vomiting; Discovery of Oxalic Acid in the Blood. By ALFRED BARING GARROD, M.D., Assistant-Physician to University College Hospital.

(*Communicated by* DR. WILLIAMS.)

The author, after making a few preliminary remarks, shortly described the characteristic symptoms exhibited by the patient—namely, the constant hiccup or eructation, œdema of the face and extremities, ascites, together with a frequent but not constant albuminous impregnation of the urine; and then spoke of the post mortem appearances, of which the only remarkable one was the state of the kidneys, which were found to be coarse in texture, and the tubules of the cortical portion filled with a white, plaster-like matter, (urate of soda.) Dr. Garrod then gave an examination of the blood obtained from the patient, which was found to contain a large amount of urea; and during the search for uric acid, Dr. Garrod discovered the existence of a large amount of oxalic acid in it, which he obtained in the octahedral and dumb-bell form of crystals of oxalate of lime. The author then described the mode of separating oxalic acid from blood, and stated that he had succeeded in discovering traces of it in four other cases. Lastly, Dr. Garrod made a few remarks on the importance of the discovery of this acid in the blood, and the probable connexion between the oxalic and uric-acid diathesis, and put as a query—Whether some of the symptoms exhibited by the patient might not be due to the presence of oxalic acid?

A Case of Calculi of the Pancreas, one of which escaped into the Cavity of the Abdomen, causing Death by Internal Hæmorrhage. By OSCAR M. P. CLAYTON.

Mr. J. R——, aged forty-seven, an inspector of police, eighteen months before his death consulted the author relative to frequently recurring dyspeptic symptoms, and a deep-seated pain at the epigastrium. Two or three months later, during an unusually severe paroxysm of pain, hæmatemesis to a considerable amount occurred. The attacks of pain recurred at intervals of two or three weeks, and when severe, were followed by more or less of hæmatemesis. Emaciation, at the same time, slowly increased. His death was attended by symptoms denoting some lesion, probably hæmorrhage, within the abdomen. On examination of the body, twenty-six hours after death, coagulated blood in large quantity was found in the peritonæal cavity. The liver and alimentary canal were healthy; but the pancreas was much enlarged, and contained numerous calculi lodged in the dilated trunk and ramifications of the excretory duct. The duct itself presented an opening through which the largest calculus had escaped into the cavity of the abdomen. This calculus, two-thirds of an inch in length, consisted of carbonate of lime, with traces of phosphate of lime, animal matter, and fat.

Medical Intelligence.

THE CHOLERA AT BRISTOL.

Bristol, July 17.—The cholera is spreading here with alarming rapidity, and that not merely in the pestilential locality called the "Rackhay," but also amongst the ranks of the middling and upper classes. In the district of St. Paul the disorder has assumed the worst and most malignant form of Asiatic cholera, death supervening in a very few hours, and the corpse almost immediately becoming perfectly purple. Sir George Grey has stated that the facts were much exaggerated; but according to Dr. Fairbrother, one of the physicians of the Bristol General Hospital, the facts, so far from having been exaggerated, actually fall far short of the reality. The total number of deaths in the Rackhay have exceeded 30; in the neighbourhood of Redcross Street from 18 to 20; and in Rosemary Street, Water Street, Philadelphia Street, &c., which are also adjacent to crowded burial grounds, the deaths have not been fewer than 20 within the last eight days. In the district of St. Paul's it is impossible to arrive at the total number of deaths with anything like certainty, but the cases have been very numerous, and nearly every instance has terminated fatally within a few hours. One lady was attacked, and died within two hours.

July 18.—There were 11 deaths within the last twenty-four hours.

THE CHOLERA AT PLYMOUTH.

Plymouth, July 17.—The number of persons attacked with cholera and diarrhœa from the 4th to the 15th of July, both days inclusive, were from cholera, 93; diarrhœa, 43; total, 136; of whom 37 have died, leaving 99 under treatment. The above 99 are, however, in one district almost exclusively. The fatalities have mostly occurred in Stonehouse Lane among the Irish Roman Catholics. In this lane, according to the report of Mr. Fox from the 10th to the 16th of July inclusive, 185 cases—31 deaths. The reports from the other 13 medical districts into which the town is divided, give, on the 16th inst., cholera 14, choleraic diarrhœa 29, diarrhœa

10—total 53; reported thus—deaths 2, sinking 2, doubtful 1, recovered 3, recovering 3, under treatment 42—total 53.

THE CHOLERA IN HULL.

Between Sunday and Thursday last, 49 cases of cholera appeared in the lower parts of this town, of which 20 had proved fatal. The authorities are actively engaged in taking the best measures for arresting the progress of the disease. We also regret to perceive that the cholera is prevalent in Portsmouth, Salisbury, Liverpool, and other provincial towns. Upwards of 70 cases were reported on Monday in the latter town.

THE CHOLERA IN PARIS.

The Hospitals of Paris received during the first fortnight of the present month 347 cases of cholera, of which 189 proved fatal. The average daily admissions are now 25, and the daily deaths are 14. Up to the 9th July the cases in the city amounted to about 50 per diem, and the deaths to 12. The total deaths up to the present time are:—

In the hospitals	6617
In the city	8814
Total	15,431

CHOLERA IN THE UNITED STATES.

The deaths in New York, and other parts of the American continent, from cholera, were, according to the latest accounts, rapidly increasing in number. In New York, from the 19th to the 26th of June, there had been 159 deaths out of 333 cases.

In a letter dated New York, July 3, it is stated that great alarm is felt in many parts of the country at the rapid progress and sad effects of the cholera, which is now ravaging the valley of the Mississippi and the western country generally, as well as Texas and North Mexico. Since the immense fire which had taken place at St. Louis, cholera had been so fatal there that, however common report may possibly exaggerate the evil, the actual official returns show a very great mortality. During the last week there were registered 763 interments, among which 589 deaths are alleged to have been from this dreaded complaint; and it is further stated that at such a time many deaths occur which are not reported. In a village near the city, which is rated at only 600 inhabitants, 60 had died during the same week. On the Atlantic coast generally there has been very little of this disease, although it has decidedly been on the increase. In New York, the daily cases reported are now ranging from 40 to 80 per diem, about one half of which are fatal.

MEDICAL APPOINTMENT.

Mr. James Robinson has been appointed surgeon-dentist to his Royal Highness Prince Albert.

UNIVERSITY OF LONDON.

Her Majesty has granted to this University a new charter, which is likely to excite some interest and attention. By the new charter the council will be empowered to confer the respective degrees of Bachelor of Arts, Master of Arts, Bachelor of Laws, or Doctor of Laws, on any persons who have graduated at Oxford, Cambridge, Durham, Trinity College, Dublin, or any other university in the kingdom. Another point in the new charter is, that the Council may institute examinations for certificates of proficiency on any subject they may think fit connected with the arts or sciences; such as architecture, civil engineering, chemistry, botany, geology and mineralogy, zoology, geography political and physical, navigation, and hydrography. The examination for certificates of proficiency was one of the original designs of the Council, which they were prevented from carrying out under the old charter.

ELECTION OF PRESIDENT AND VICE-PRESIDENTS OF THE ROYAL COLLEGE OF SURGEONS.

At a recent meeting of the Council of this Institution, Mr. Joseph Henry Green, F.R.S., Surgeon to St. Thomas's Hospital, was elected President; and Messrs. James Moncrieff Arnott, F.R.S., and Surgeon of University College Hospital, and John Flint South, Surgeon of St. Thomas's Hospital, were elected Vice-Presidents of the College for the ensuing year.

MEMOIR OF DR. A. T. THOMSON, LATE PROFESSOR OF MATERIA MEDICA AND OF MEDICAL JURISPRUDENCE IN UNIVERSITY COLLEGE, LONDON. BY AN OLD STUDENT OF THE COLLEGE.

The subject of the present memoir, the late esteemed Professor of Materia Medica in University College, was born at Edinburgh, in January, 1778, and, consequently, at the time of his death, was in his seventy-second year. His father was a Scotchman, who had emigrated to America, and held the lucrative post of Commissioner of Customs in the town of Savannah, in Georgia. He had arrived on a temporary visit to his native country immediately before Dr. Thomson's birth, but shortly after this event he returned to America, and remained there till the termination of the War of Independence. Dr. Thomson's father, in addition to the Commissionership of Customs, held the appointment of Postmaster General of the province of Georgia, and was also a member of the Government Council. Like many of the American Loyalists he threw up his appointments when the peace was proclaimed, and returning to England, received a pension from Government, and retired to Edinburgh. Dr. Thomson was educated in the High

School, and subsequently in the College of Edinburgh. Among his school and college friends were Leonard and Francis Horner, Henry Cockburn, afterwards a distinguished orator of the Scottish bar, and now one of the Lords of Session and several others whose names have since attained a wide celebrity. At the time of Dr. Thomson's attendance at Edinburgh, the fame of this great medical school was at its height; the names of its teachers, Monro Secundus, Gregory, Black, &c., were known all over the civilized world. Dr. Thomson attended the last course of lectures ever delivered by Dr. Black. During his attendance at the College, Dr. Thomson became a member of the Speculative Society, and mingled in the celebrated debates which then exercised the talents of many who were afterwards destined to play no inconsiderable part on a much wider stage. Here it was that Dr. Thomson formed the acquaintance of Lord Brougham, and laid the foundation of a friendship which continued during his whole life. Dr. Thomson graduated at Edinburgh; and having the misfortune to lose his father about this time, and finding that he was left entirely dependent on his own exertions, he determined to commence practice in London, which he accordingly did, after joining the College of Surgeons in London, as a General Practitioner in Sloane Street. He rapidly acquired a large practice, and in 1801 was married to Miss Maxwell, of Dumfries.

In 1810 he commenced a course of lectures on Medical Botany, which was for many years the only course of the kind in London. It was very popular, and many of the most eminent men of the day became his pupils. Shortly afterwards he published his "Conspectus of the Pharmacopeia." This little book, the most popular one of its class, was sold to Underwood, the publisher, for £20. Some idea of its astonishing success may be learnt from the fact, that after passing through five editions, the copyright was bought by Messrs. Longman and Co. for £600. It has since passed through many more editions, and has brought immense profit to its proprietors, though very little to its author, who merely received £20 or £30 for revising each fresh edition. In 1811 Dr. Thomson published the "London Dispensatory,"—a work of such merit as at once to command a very extensive circulation, and to place the name of its writer among the first class of medical authors. It has passed through eleven editions, the last being published in 1844, and still preserves its reputation of being the best book on the subject. It is a work of great erudition, containing an immense amount of information, admirably put together in an easy and lucid way, and being illustrated with a great number of original experiments and observations. In the Preface to the first edition, the author apologises for its imperfections on the ground that it had not been written amidst the appliances of learned leisure, and the ease of an undisturbed study; but had been composed among the harassing cares and distractions of a most extensive practice. Had such an apology been needed, it might be said that this was most literally the fact, as it was usual for Dr. Thomson to rise at five o'clock in the morning, write for three hours, then spend the whole day in visiting his patients, return to a late dinner, and then work till two o'clock in the morning. Indeed, he never allowed himself more than three or four hours' sleep. In 1814, Dr. Thomson became with Dr. Burrows and Mr. Royston, one of the editors of the "Medical Repository." This Journal, which speedily commanded a wide circulation, and exercised great influence with the profession, was established both for the purpose of promoting medical science, and with the view of becoming the organ of the associated Surgeon Apothecaries, who were then agitating for the medical reform which afterwards took the shape of the Apothecaries' Act. Dr. Thomson was one of the most energetic reformers, and embraced the cause of the general practitioners with his accustomed ardour. It was, in great measure, owing to his energy, and to the skill with which he and Dr. Burrows advocated the claims of the Apothecaries, that the first instalment of medical reform was obtained for the profession. Although, at this time, Dr. Thomson was overwhelmed with a great private practice, he wrote largely for the "Repository." In the copy which he kept, and which, through the kindness of his family, we have been permitted to inspect, the names of the writers are attached to each article. To those who are curious in such matters, we may now safely permit a glance within the editorial sanctum. "The first original article in the Journal, viz. "Two Cases of Hydrocephalus Acutus," is by Dr. Thomson; and the symptoms and *post-mortem* appearances are detailed with great minuteness. In the same number is a very able and rather sharp review of the fourth volume of the "Transactions of the College of Physicians," also from his pen. In the second number, "The Reviews of the Progress of Chemistry," "Materia Medica," and "Botany" on the Continent, are by him: and in the subsequent numbers, he wrote the greater part of the Reviews, and of the "Analyses of Foreign Medical Science and Literature." Those Analyses were subsequently lengthened into "Retrospects of Medical Science," which are perfect models of what such things ought to be, and show to the greatest advantage the singular talent which their writer had of collecting from innumerable sources every important and novel fact. It

is astonishing how Dr. Thomson, even with his power of work, could have found time at this period to fulfil his numerous engagements. He was doing a private practice of about £3000 per annum; he was an active member of the Apothecaries' Committee (and several speeches reported in the first volume of the "Repository," testify to his exact appreciation of the question of Medical Reform); he was delivering Lectures on Botany, and performing an amount of literary labour for the "Repository," which, by itself, would have engrossed the whole time of many men. Shortly after this time, the first case of poisoning by oxalic acid in England was published in the "Repository" by Mr. Royston, and Dr. Thomson immediately entered on an investigation into the chemical and medicinal properties of this acid, which ended in the publication of some Toxicological papers, to which succeeding writers have continually referred. He discovered also the best antidote to poisoning by oxalic acid, and, in fact, went over the ground which was afterwards trodden in the same way by Orfila. In 1815 and 1816 Dr. Thomson was engaged in numerous inquiries into the microscopic structure of plants, many of which are of great interest, and are contained in his work on Botany, published two or three years subsequently. In 1818 the *Medical Repository* was sold to Underwood. Dr. Thomson continued, however, to be a large contributor to it, and the Retrospect of the Progress of Medicine which opens the volume for that year, and occupies more than sixty pages, was written by him.

In 1820, having for some time been a widower, he married a second time.

In 1826, Dr. Thomson removed from Sloane Street to Hinde Street, Manchester Square, and became a member of the College of Physicians.

In 1828, University College, or, as it was then called, the London University, opened its theatres to the public, and Dr. Thomson was elected the Professor of Materia Medica and Therapeutics,—a chair which he held till his death. In the following year he published an edition of Bateman on Cutaneous Diseases, with Plates. In 1832, on the death of Dr. Gordon Smith, he was appointed Professor of Medical Jurisprudence in University College, in conjunction with Mr. Amos; but shortly afterwards, when Mr. Amos accepted a Judgeship in India, Dr. Thomson became sole Professor, and continued so till his death. During this part of his life, from 1829 to 1849, he continued to manifest the same indefatigable industry as during his career as a general practitioner. His private practice was considerable. He was Physician to the Dispensary attached to University College, and, subsequently, to University College Hospital. He delivered complete courses of Lectures on Materia Medica and Medical Jurisprudence, and gave weekly Clinical Lectures; he published a great number of scattered papers in the *Lancet*, *Medical Gazette*, *Monthly Journal of Medical Science*, and *Medico-Chirurgical Transactions*, and he contributed numerous articles to the "Cyclopædia of Practical Medicine." He also published Lectures on Medical Jurisprudence, and the "Elements of Materia Medica,"—a text-book intended for the use of his class, which has passed through three editions. He wrote a very useful work on the Domestic Management of the Sick-room, which had a very large sale; a short treatise on Botany, for the Society for the Diffusion of Useful Knowledge; and published two or three Fasciculi of Plates on Skin Diseases.

In 1841 he commenced a course of Lectures on Botany for the Pharmaceutical Society, and continued them until his last illness. About ten years ago he was elected a Fellow of the College of Physicians,—a distinction which, considering his reputation and his character, might have been sooner bestowed upon him. In addition to his extensive professional avocations, Dr. Thomson found time for various literary pursuits: he wrote many papers for the periodicals of the day—such as Colburn's *Monthly Magazine*, the *Foreign Quarterly Review*, the *Literary Gazette*. He translated Salvert's work on Magic, and edited, with copious notes, the "Seasons" of Thomson. These non-professional pursuits were carried on in what he called his leisure time, which consisted merely of the three or four hours he snatched from sleep, after fourteen or sixteen hours' unremitting application to professional duties. During the last two years of his life he had been engaged in throwing his notes together for the purpose of writing a work on Diseases affecting the Skin,—a task for which his great experience in these affections qualified him more highly than any other practitioner of his day.

In the summer of 1848 both his mind and body seemed to be as strong and active as ever. He was accustomed to rise at six in the morning, walk up to the Botanical Gardens in the Regent's Park, deliver from seven to eight his Lecture to the students of the Pharmaceutical Society, then return and see patients till half-past twelve. At one o'clock he went to his hospital, and at three lectured on medical jurisprudence. Once a week, also, he gave a clinical lecture, and on these days, therefore, was actually engaged in lecturing for three hours. After his lecture on jurisprudence he made his visits till a late hour in the evening, returned to dinner, and after dinner commenced preparing his lectures for the following day, writing reviews, and medical

papers of all kinds, arranging his book on skin diseases, or collecting materials for the next edition of his "Dispensatory," which was his favourite and most profitable work. After many hours' labour he would lay aside his professional work, and take up some of his lighter pursuits, and then, at two or three in the morning, retire to bed for three or four hours. He found time, somehow or other, to read all the medical publications, both periodical and otherwise, and studied many of them as attentively as if he had been a student of 20 years of age. At the time of his illness he had been very carefully reading Feuchtersleben's Medical Psychology, and had half completed a long review of it, intended for one of the leading medical journals.

In spite of this intense occupation, at the commencement of the session in October, 1848, he had never seemed in better health, or more active in mind. In January, 1849, however, he caught cold, and had a very severe attack of bronchitis: after two or three weeks' illness he went into the country, and soon regaining his strength, insisted, contrary to the advice of his friends, on returning to his work. He entered upon his duties as usual, but, probably from the exposure which a professional man cannot wholly avoid, again suffered a return of bronchitis, with which a little pneumonia was now combined. This was, however, soon subdued, and he left town for a few days to recruit. He came back strong and active, although the cough had not entirely disappeared, and recommenced his lectures and hospital practice. Immediately before the termination of the winter session, he was accidentally exposed to cold, and felt chilled and indisposed; instead of returning home, he went his round of professional engagements, but while engaged in writing a prescription at the house of a patient, was attacked with a fainting fit. He soon recovered, finished his prescription, and returned home. The next day he felt himself too unwell to go out, and when visited by his professional frien ls, it was found that extensive pneumonia of the right lung had set in. This was apparently soon got under, and at one time he seemed rapidly recovering, and was able to leave his bed for six and eight hours a-day. Without assignable cause, however, the disease again partially returned, pleurisy to a considerable extent complicated the case, and after lingering several weeks in a state of great debility and exhaustion, he gradually sank, and died on the 3rd of July. The mind remained perfectly clear and active till within a few minutes of death; till within a few days he had continued the dictation of his work on skin diseases, and had consulted authorities on the subject. He bore his illness with extreme patience, and contemplated its inevitable termination with the fortitude of an honest man and the calmness of a Christian.

We cannot conclude this brief notice of an excellent Physician and most exemplary man, without a few remarks on the character of his intellectual powers, and on the claims which his memory has on the gratitude of the profession. And we may remark, in the first place, that this spectacle of a man engaged for so many years in the engrossing occupations of general practice, and yet finding time, not only to keep up his own knowledge of his profession, but to add materially to the general stock, is an example which every man would do well to copy. Let those who regard the General Practitioner as one of an inferior class, or as one who, in the multiplicity of his engagements, is obliged to abandon all independent observation, confess their error, in observing how Dr. Thomson, while engaged in the largest practice in his own part of London, appeared as the only instructor in a very important branch of medical study,—published works which, even after nearly forty years, remain unexcelled, — agitated unceasingly to obtain from the Medical Corporations consideration and justice for his professional brethren,—and, in fact, realized, in his own person, the beau-ideal of an accomplished professional man, at once literary and practical, a profound scholar, and an excellent practitioner,—doing his duty to those whose lives, under Providence, were committed to his charge, and, at the same time, working honestly and disinterestedly to advance the art which he practised, and to promote the good of those who practised it with him. But those who would judge Dr. Thomson only from his published works, would hardly do him justice. In common with most men who write largely in Medical Periodicals, he exerted a great, though unseen influence on professional opinion. Many who have read only his "Dispensatory," have been too ready to regard him in the light of a compiler. In order to form an estimate of his critical faculty, or of the real extent of his knowledge of Medicine, it is necessary to consider the numerous anonymous Reviews, Retrospects, and Reports which he published from 1814 to 1820. Even his family are acquainted with only a few of these, and with those merely by accident; but those who will take up the ten first volumes of the "Medical Repository," will find, that the ability with which this Journal was conducted, and the scientific character of its contents, which were in great measure attributable to the subject of this memoir, would do honour to any editors or writers of the present day. Dr. Thomson, also, was one of those who, more than forty years ago, foretold the vast influence which microscopic investigations and organic chemistry would have upon Medi-

cine. He had even made microscopic examinations of morbid products, which must have led him, had his occupations permitted him to continue them, to many results which have been regarded as great discoveries during the last ten or fifteen years. During the last twenty years, Dr. Thomson has been so constantly before the medical public, that it is hardly necessary to refer to the position he occupied in University College, and to his influence as a teacher.

As a Practitioner, Dr. Thomson was extremely successful; he was master of the latest improvements in medical doctrines and medical applications, and inspired the greatest confidence in his patients.

Like most men who have deeply investigated physical science, Dr. Thomson was thoroughly imbued with a sense of the majesty of the design and order of the universe. The man who had attempted to penetrate into the nature of the organization of plants, who had entered deeply, at one time of his life, into physiological speculation and chemical research, and who had fixed a curious and profound gaze on the mysteries of disease, could not be otherwise than religious. Dr. Thomson was also a firm believer in revealed religion; and without ostentatious profession, endeavoured constantly to act according to those Divine rules, the truth of which his innate consciousness acknowledged. He thus performed his duties in life worthily and well, he lived at peace with all men, and died tranquilly, leaving to his friends the memory of virtues which cannot be forgotten, and to his Profession a reputation which is in all points untarnished, and an example which might be imitated by every one with profit.—*Medical Times.*

OBITUARY.

On the 12th inst., of rapid consumption, Mr. Maurice Dyte, of 44, Houndsditch, London, surgeon, in the 43d year of his age.

On the 13th inst., in the 33d year of his age, Frederick Harding Lerew, Esq., surgeon, at the residence of his brother, 54, Portman Place, Maida Hill.

On the 1st inst. at Kemerton Rectory, in his 83rd year, Robert Disney Thorp, M.D., father of the Archdeacon of Bristol.

At Southampton, on the 6th inst. aged 90, John Shadwell, Esq., M.D., Lord of the Manor of Horfield, near Bristol.

BOOKS & PERIODICALS RECEIVED

(The List will be given in our next No.)

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, July 14.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	634	Males....	702	Males....	513
Females..	592	Females..	667	Females..	495
	1226		1369		1008

Causes of Death.		*Av. of 5 Sum.*
All Causes	1369	1008
Specified Causes	1367	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	630	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	42	36
3. Brain, Spinal Marrow, Nerves, and Senses	106	115
4. Heart and Bloodvessels	28	38
5. Lungs and organs of Respiration	108	81
6. Stomach, Liver, &c.	60	68
7. Diseases of the Kidneys. &c.	10	8
8. Childbirth, Diseases of Uterus. &c.	10	11
9. Rheumatism, Diseases of Bones, Joints, &c.	7	6
10. Skin	3	1
11. Old Age	36	32
12. Sudden Deaths	13	8
13. Violence, Privation, Cold, &c.	53	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsions	30
Measles	30	Bronchitis	38
Scarlatina	25	Pneumonia	52
Hooping-cough	37	Phthisis	146
Diarrhœa	89	Lungs	6
Cholera	339	Teething	13
Typhus	48	Stomach	2
Dropsy	17	Liver	12
Hydrocephalus	25		
Apoplexy	21	Childbirth	4
Paralysis	17	Uterus	

Remarks.—The total number of deaths was 361 above the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 30·12
" " " Thermometer[a] ..... 66·8
Self-registering do.[b] .... Max. 109° Min. 39°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·0. – Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5·8° above the mean of the month.

NOTICES TO CORRESPONDENTS.

"A Committee of Students of St. Thomas's Hospital."—The second letter has been received, and is under consideration.

Dr. Reid's letter on the Contagion of Cholera has come to hand.

The Report of the Quarterly Meeting of Governors at St. George's Hospital must be authenticated, by the writer sending his name. It cannot otherwise be inserted.

Mr. George's paper has reached us, and will be published.

The Report from the Chichester Infirmary will have early insertion.

"The Bristol Mesmeric Institute."—We have received several letters in reference to our recent remarks on the first public meeting of the Institute They were too late for the present number: they shall appear next week.

Mr. Hunter's cases of Yellow Fever, and Dr. M'Gregor's communication on Cholera, will be inserted in the following number.

Dr. Ogier Ward's letter shall appear in an early number.

Corrigenda in Dr. Brinton's in our last No.—Page 57, col. 2, paragraph 5, "It is singular.... many surgeons," should be a foot-note.—P. 61, four first lines should follow the two first lines of the next paragraph;—Line 38, for "symptoms," read "symptom."

Lectures.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

Delivered at the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture VI.

Repair of injuries of cartilage. Relation of cartilage and bone in the series of animal tissues.

Repair of tendons and muscles, divided in open and subcutaneous sections. Inflammatory effusion following the injury; effusion of reparative material; its organization and gradual perfection; its strength.

Repair of divided nerves: the primary and secondary conjunction of their fibres.

General considerations on the relations between the processes of repair and those of inflammation and developement. Bearing of the facts observed in repair on the question of the constancy of specific characters.

My last lecture must necessarily be somewhat fragmentary, while I purpose to devote it to the consideration of the modes of healing of several different tissues,—modes which, although they be all consistent with what has been said of the general rules and methods of the healing process, yet present each some peculiarity that seems worthy of observation.

And first (though it matters little which I begin with)—of the healing of wounds and other injuries of cartilage.

There are, I believe, no instances in which a lost portion of cartilage has been restored, or a wounded portion repaired, with new-formed permanent cartilage, in the human subject. When a fracture extends into a joint, one may observe that the articular cartilage remains for a long time unchanged, or else has only its broken edges a little softened and rounded-off. At length the gap is filled with a tough fibrous tissue; or rather, the gap becomes somewhat wider and shallower, and the space thus formed is so filled-up. Among the many experiments made by Dörner and others,* who cut and variously injured the articular cartilages of dogs, none showed any sign of reproduction; and Mr. Skey has told me that when, in experiments, he cut away portions of the cartilages of a dog's knee-joint, no repair of the cartilage ever appeared to ensue, though the joint did not materially suffer from the injury, and recovered its free capacity of motion.

Even in the smallest wounds of cartilage, the same union by fibrous tissue or ligament alone obtains, as a specimen here shows. A man, long before death, cut his throat, and the wound passed about half an inch into the angle of his thyroid cartilage. In the very narrow gap thus made—a gap not more than half a line in width—there is only a layer of tough fibrous tissue; and with the microscope I could detect no appearance of a renewed growth of cartilage. On the contrary, the edges of the cartilage, to which the fibrous tissue was attached, were as abrupt, as clean, and as straight as those would be of a section of cartilage just made with a very sharp instrument. The cut cartilage was unchanged, though the union between it and the new-formed fibrous tissue was as close and as firm as that of the several parts of a continuous tissue.

In some instances (but I suppose in none but those of cartilages which have a natural tendency to be ossified in advancing years) the fractures of cartilage are united by bone. This commonly happens in the fractures of the costal cartilages (as the specimens show*); and it has been noticed in fractures of the thyroid cartilage. The union of a fracture of the cartilaginous portion of a rib is effected, as that of one in the osseous portion is, by an enclosing ring of bone, like a provisional callus; and the ossification extends to the parts of the cartilage immediately adjacent to the fracture.

The imperfect repair of cartilage contrasted with the perfect repair which bone, after similar injuries, undergoes, may seem opposed to the general rule,—that the more highly a tissue is developed, the less is its capacity for repairing the injuries it may sustain; for it is usual to speak of cartilage as being *developed* into bone, and to regard bone as the more developed and more highly organised of the two tissues. But I think it is only in a very limited sense that this mode of expression is just. In some admirable remarks† on the cartilaginous state of the endo-skeleton of Chondropterygian fishes, my colleague has said—"I know not why a flexible vascular animal substance should be supposed to be raised in the histological scale because it has become impregnated, and, as it were, petrified, by the abundant intussusception of earthy salts in its areolar tissue. It is perfectly intelligible that this accelerated progress to the

* See Hildebrandt's Anatomie, Bd. i. p. 306.

* Museum of St. Bartholomew's, Ser. iii. 48, 73.
† Owen; Lectures on Comparative Anatomy, vol. ii. p. 146.

inorganic state may be requisite for some special office of such calcified parts in the individual economy; but not, therefore, that it is an absolute elevation of such parts in the series of animal tissues." Now all that one sees of the life of cartilage, in the narrower survey of the higher mammalia, is conformable with this view, and would lead us to speak of its change into bone as a degeneration, rather than a developement. The change is effected not only in the vigour of life, but as constantly, in certain parts, in its decay; and wherever it is effected, the part that has become bone ceases to grow, except by superaddition: the interstitial changes of normal nutrition are reduced to their lowest stage, or altogether cease. The cartilage, too, as I have said, is less frequently repaired after injury, and its repair is commonly effected by the production of bone; yet it is contrary to all analogy for a lower tissue to be repaired by the formation of a higher one. And it may be added that the granular, and in some instances even crystalline, form, in which the earthy matter of bone is deposited, is inconsistent with the supposition that its animal matter has acquired a higher developement than it had before in the state of cartilage. So far, then, as its position in the series of animal tissues is concerned, bone should be placed below cartilage, as a tissue which has passed into a state of less active life, and has acquired characters that approximate it to the more lowly organised and to the inorganic substances. An osseous skeleton is, indeed, proper to the most highly developed state of the individual, and in this view bone appears superior to cartilage: but, with as much right, in the same view, the atrophied thymus gland, and the renal capsules almost arrested in their growth, might claim to be regarded as developements from their fœtal state; for these, also, are normal parts of the more perfect organism.

Healing of Tendons. — I have already often referred to the phenomena that follow the division of tendons by subcutaneous and by open wounds; but the practical interest of the subject will, I hope, justify my giving a connected account of the process, as I observed it in a series of numerous experiments performed, with the help of Mr. Savory, on rabbits from three to six months old. Such experiments are, I know, open, in some measure, to the same objection as I made in the last lecture to those on fractures in the lower animals; but the few instances, in which examinations have been made of human tendons divided by subcutaneous section, have shown that the processes in man and in animals are not materially different. At the most, we may believe that, as in the repair of bones, the production of reparative material is more abundant, and its organization more speedy, in animals than in man.

I have already, in the second lecture, stated generally the differences in the several consequences of open and subcutaneous wounds. In the case of divided Achilles-tendons, the disadvantages of open wounds —*i. e.* of wounds extending through the integuments over and on each side of the tendon, as well as through it—were as follows:—1. There were always more inflammation in the neighbourhood of the wound, and more copious infiltration of the parts, than in a subcutaneous division of the tendon in the same rabbit; 2. Suppuration frequently occurred, either between the retracted ends of the divided tendon or beneath its distal end; 3. The skin was more apt to become adherent to the tendon, and so to limit and hinder its sliding movements when the healing was completed; 4. The retracted ends of the tendon were more often displaced, so that their axes did not exactly correspond with each other, or with that of the reparative bond of union.

Such mishaps were often observed in the open wounds, but were rare after the subcutaneous operations. In the cases of open wounds, they were avoided as often as the wound through the integuments healed quickly; and, whenever this happened, the case proceeded like one in which the subcutaneous division had been made. It was evident that the exposure of the wounded parts to the air did little harm, if it was continued for only a few hours,—a fact which may be usefully remembered when operations must be performed on tendons which it is not convenient to divide unseen.

These same cases of speedy healing of the opening in the integuments served to show, that it is unimportant for the healing of divided Achilles-tendons, whether the cellular sheath or covering of the tendon be divided or not. In all the cases of open division in these experiments, it was completely cut through; yet, when the external wound healed quickly, the union of the divided tendon was as speedy and as complete as in any case of subcutaneous division in which it might be supposed that the sheath of the tendon was not injured.

I will describe now the course of events after subcutaneous division of the Achilles-tendon; stating only what was generally observed, and what the specimens and diagrams before me will serve to illustrate.*

* The account here given agrees in all essential respects with that by Lebert, in his Abhandlungen der praktischen Chirurgie, page 403. Neither do the accounts materially differ, except in being less minute, which are given by Von Ammon (De Physiologia Tenotomiæ), Duval (Bull. de l'Acad. Royale de Médecine, 1837), and Duparc (Nederlandsch Lancet, 1837).

At the instant of the division, the ends of the tendon separate to a distance of nearly an inch, the upper portion of the tendon being drawn up the leg by the action of the gastronemius and soleus muscles. The retraction is comparatively much greater than in operations on the human Achilles-tendon; for where these are done, the muscles are seldom capable of strong or extensive contraction. It is in all cases to be remembered that the separation is effected entirely by the withdrawal of the upper portion of the tendon: the lower, being not connected with muscle, remains with its end opposite the wound. To this we may ascribe the general fact, that the reparative process is more active at the upper than at the lower portion of the tendon: for the latter lies in the very centre of the chief inflammatory action; while the former is removed far from it, being drawn away, at once from the seat of the injury, and from even the slightest exposure to the air.

I have already said that very little blood is effused in the subcutaneous operations. The first apparent consequence of the division of the tendon is the effusion of a fluid or semi-fluid substance, which, like the product of common inflammation, quickly organizes itself into the well-known forms of exudation-cells,—forms nearly like those of the white corpuscles of the blood and the granulation-cells. These, speedily becoming more distinctly nucleated and elongated, undergo the changes which I mentioned in describing the developement of granulations. The effusion makes the tissues at and near the wound succulent and yellow, like parts infiltrated in anasarca. Together with the enlargement of their vessels, it swells the parts, so that the skin is scarcely at all depressed between the separated ends of the tendon. But in well-made subcutaneous sections, this inflammatory effusion is of small amount, and takes, I believe, little or no share in the healing of the injury; for the effusion ceases after the first twenty-four hours, and I think that its cells are not developed beyond the state in which they appear spindle-shaped. I have never seen indications of their forming filaments of cellular or fibrous tissue.

In rabbits, forty-eight hours usually elapse before there are distinct signs of the production of the proper reparative material. This is deposited in the fibro-cellular tissue that lies between and close round the separated ends of the tendon, as well as in the interspaces of the tendinous fasciculi of those ends. It thus swells up the space between the separated ends, and makes the ends themselves somewhat soft and succulent. Some portion, at least, of it being deposited where the inflammatory effusion was, one finds their constituents mingled; but I believe that, while the proper reparative material developes itself, the product of the inflammation is either arrested in its developement, or even degenerates,—its cells shrivelling up, and gradually wasting.

I need not now describe the mode of developement of the reparative material provided for divided tendons; for I have taken it as a typical example of the developement of lymph into nucleated blastema, and thence into fibrous tissue.* To the naked eye it appears after three days as a soft, moist, and greyish substance, with a slight ruddy tinge, accidentally more or less blotched with blood, extending from one end of the tendon to the other, but having no well-marked boundary—undefined, merging gradually into the surrounding parts. In its gradual progress, the reparative material becomes commensurately firmer, tougher, and greyer, the ruddiness successively disappearing from the circumference to the axis: it becomes, also, more defined from the surrounding parts, and after four or five days forms a distinct cord-like vascular bond of connection between the ends of the tendon, extending through all the space from which they have been retracted, and for a short distance ensheathing them both.

As the bond of connection thus acquires toughness and definition, so the tissue around it loses its infiltrated and vascular appearance: the inflammatory effusion clearing up, and the integuments becoming looser, and sliding more easily. In every experiment, one finds cause for admiration at the manner in which a single well-designed and cord-like bond of union is thus gradually formed, where at first there had been an uniform and seemingly purposeless infiltration of the whole space left by the retraction of the tendon.

With the increase of toughness, the new substance acquires a more decidedly filamentous appearance and structure; so that after the seventh or eighth day the microscope detects well-marked filaments, like those of the less perfect forms of fibrous tissue. Gradually perfecting itself, but with a rate of progress which becomes gradually less,† the new tissue may become at last, in all appearance, identical with that of the original tendon. So it has happened in these valuable specimens presented to the Museum of the College by Mr. Tamplin.‡ They are the Achilles-tendon, and the tendons

* See Lecture ii.

† One may remark this as a general fact, that when once the reparative process has commenced, much more appears to be done in it in the first few days than in any equal subsequent period of time. It may be another instance justifying the general expression, that production is easier than developement or improvement, and that the earlier or lower developements require less organizing force than the higher or later.

‡ Nos. 358, 359, 360.

of the anterior and posterior tibial muscles of a child nine months old, in whom, when it was five months old, all these tendons were divided for the cure of congenital varus. The child had perfect use of its feet after the operation; and when it died no trace of the division of any of the tendons could be discerned, even with microscopic aid.

Such a perfect repair as this is, however, I believe, exceedingly rare. More commonly the differences between the original tendon and the new substance remain well-marked; the latter does not acquire the uniform arrangement of fibres, or the peculiar glistening thence accruing to the normal tendons: it is harder, and less pliant, though not tougher; its fibres appear irregularly interwoven and entangled, dull-white, like those of a common scar. And these differences, though as time passes they become gradually less, are particularly well seen when a longitudinal section is made from behind through both the ends of the tendon and the new substance that ensheaths and connects them. In such a section, one sees each of the retracted ends of the divided tendon preserving nearly all its peculiar whiteness, only somewhat rounded or mis-shapen and swollen, and imbedded in the end of the new substance, which is always greyer, or less glistening, and looks less compact and regular. In the retracted ends of the tendon, one may discern the new substance mingled with the old, and interposed between its fasciculi, with which one may believe it is connected by the finest dove-tailing.

The strength, both of the new substance itself, and of its connection with the original substance, is worthy of remark. To test it, I removed from a rabbit an Achilles-tendon, which had been divided six days previously, and of which the retracted ends were connected by a bond of the size and texture usual at that period of the reparative process. I suspended from the half-section of this bond gradually increased weights. At length it bore a weight of ten pounds, but presently gave way with it; yet we may suppose the whole thickness of the bond would have borne twenty pounds. In another experiment, I tried the strength of a bond of connection which had been ten days forming: this, after bearing suspended weights of twenty, thirty, forty, and fifty pounds, was torn with fifty-six pounds. But surely the strength it showed was very wonderful, when we remember that it was not more than two lines in its chief diameter; and that it was wholly formed and organized in ten days, in the leg of a rabbit scarcely more than a pound in weight. With its tenacity it had acquired much of the inextensible character of the natural tendon: it was indeed stretched by the heavy weights suspended from it, yet so slightly that I think no exertion of which the rabbit was capable would have sufficed to extend it in any appreciable degree.

The Healing of Muscles subcutaneously divided presents many things exactly similar to those just described as observed in the healing of tendons similarly divided. But in the experiments which I made on the triceps extensor brachii, and the tibialis anticus of rabbits, there was always observed a peculiar inversion, subsidence, or *tucking-in* of the muscular fibres at the divided part, so that nearly all the fasciculi directed their cut ends towards the subjacent bone or fascia. Thus it might, and sometimes appeared to, happen that, though the retracted portions of the muscle were imperfectly united, yet the action of the muscle was not lost, for one or both its ends acquiring new attachments to the subjacent parts would still act, though with diminished range, upon the joint over which the continued fibres of the muscle passed.

In general, it appeared that the reparative material was less quickly produced than after division of the tendons; but this might be because of the greater violence inflicted in the operation, more than because of the structure of the divided parts. The usual method and end of the developement of the reparative material were the same as after division of the tendons; and at length—but always, I think, more slowly than with them—the ends of the retracted portions became inclosed in a tough fibrous bond of union.

After the formation of this bond, the healing of divided muscles is improved, both by the clearing up of the surrounding tissues infiltrated with inflammatory products, and by the contraction of the new bond, which thus draws together the retracted portions of the muscle, so that they may nearly coalesce. Thus, in a man who had cut his throat long before his death, and had divided the left sterno-hyoid, omo-hyoid, and sterno-thyroid muscles, I found that the ends of these muscles, though they must at first have retracted considerably, had all been drawn to attachments on the cricoid cartilage, over which their several portions nearly united.

The *Healing of divided Nerves* presents, in ordinary cases, many features in common with that of divided tendons. A bond of new substance is formed, which connects the retracted portions. In this bond, which has in the first instance only the characters of the material constructed for the repair of all soft parts, there are gradually formed new nerve-fibres, which connect themselves with the old ones in the separated portions of the divided nerve, and thus restore its function. I shall not dwell on this process, for I have made no new obser-

vations on it: it is amply treated in several works on physiology;* and it is thoroughly illustrated, so far as the appearances to the naked eye are concerned, by the valuable series of preparations given to the Museum of the College by Mr. Swan,† and by the collection of drawings from Guy's Hospital, which Mr. Hilton has kindly lent for your examination.

Leaving, then, this process, which might be named the *secondary* repair of divided nerves, I will speak of one which, so far as I know, has not been yet described, and which may be justly called the *primary* healing. It may be explained by the history of a case in which it occurred:—

A boy, eleven years old, was admitted into Saint Bartholomew's Hospital, under Mr. Stanley, with a wound across the wrist. This wound, which had been just previously made with a circular saw, extended from one margin to the other of the fore-arm, about an inch above the wrist-joint. It went through all the flexor tendons of the fingers and thumb, dividing the radial artery and nerve, the median nerve and artery, and extending for a short distance into the radius itself. The ulnar nerve and artery were not injured; the condition of the interosseous artery was uncertain, but the interroseous ligament was exposed at the bottom of the wound. Half an inch of the upper portion of the divided median nerve lay exposed in the wound, and was distinctly observed, and touched by Mr. Stanley, myself, and others. All sensation in the parts supplied from the radial and median nerves below the wound was completely lost directly, and for some days after the injury.

It was decided to try to save the boy's hand. The radial artery was tied, and the edges of the wounded integuments put together. No particular pains were taken to hold the ends of the divided median nerve in contact, but the arm was kept at rest with water-dressing.

After ten days or a fortnight the boy began to observe signs of returning sensation in the parts supplied by the median nerve, and these increasing, I found on the 26th of February, and on many subsequent days, that the nerve had nearly recovered its conducting power. When he was blindfolded, he could distinctly discern the contact of the point of a pencil with his second finger, and the radial side of his third finger; he was less sure when his thumb or his fore-finger was touched, for, though generally right, he sometimes thought one of these was touched when the contact was with the other; and there were a few and distant small portions of the skin supplied by the median nerve from which he still derived no sensation at all.

Now all this proves that the ends of the divided median nerve had coalesced by immediate union, or by primary adhesion with an exceedingly small amount of new substance formed between them. In the ordinary secondary healing of divided human nerves, twelve months generally elapse before, if ever, any restoration of the function is observed; in this case, the nerve could conduct in a fortnight, and perhaps much less, after the wound. The imperfection of its recovery is just what one might expect in such a mode of union. One might anticipate that some of the fibres in one of its portions would fail to be united to any in the other portion: the parts supplied by these filaments would necessarily remain insensible. So, again, one might expect that some of the fibres in one portion would unite with some in the other, with which before they were not continuous, and which supplied parts alien from those to which themselves were destined: in all such dislocations of filaments there would be confused or transferred sensations. But, among all the fibres, some would again combine in the same continuity in which they had naturally existed: and in these cases the function would be at once fully restored.

While this case was under observation, Mr. Gatty, a pupil of the hospital, told me a similar case in which his father had been consulted; and that gentleman kindly sent me, with the permission of Mr. Heygate, in whose practice the case occurred, the following particulars of it:—

A lad, near Market Harborough, thirteen years old, had his hand nearly cut off at the wrist-joint by the knife of a chaff-cutting machine. The knife passed through the joint, separating a small portion of the ends of the radius and of the ulna, and leaving the hand attached to the fore-arm by only a portion of integument about an inch wide; connected with which were the ulnar vessels and nerve, and the flexor carpi ulnaris muscle—all uninjured. The radial artery and some small branches being tied, the hand and arm were brought into apposition, and after removing a small portion of extensor tendon that protruded, were retained firmly with adhesive plaster and a splint of pasteboard. The wound went on very well, and was left undisturbed for a week. The warmth of the hand returned; in ten or twelve days after the injury there was slight sensation in the fingers, but in the thumb

* See especially Müller's Physiology, by Baly, i. 457; Valentin's Physiologie, i. 702.

† Nos. 2169 to 2175. All these specimens, and the interesting appearances of the formation of new nerve-fibres which they display, are described and illustrated by Mr. Swan, in his "Treatise on the Diseases and Injuries of Nerves." In Nos. 2165 to 2168 in the College Museum, Mr. Hunter has shown the formation of the bulb at the ends of divided nerves, and the extension of nerve-fibres into it.

none was discernible till more than a fortnight had elapsed. Finally the sensation of the hand and fingers, and most of their movements, were perfectly restored.

In this case, again, it seems impossible to explain the speedy restoration of the conducting power of the nerve, except on the supposition that its divided fibres had immediately reunited. We have no evidence that new nerve-fibres could in so short a time be formed: all the cases of less favourable healing show that they require a year or more for their formation.

I need hardly add the practical rule we may draw from these cases. It is, briefly, that we may, with good hope of great advantage, always endeavour to bring into contact, and immediately unite, the ends of divided nerves; and that we must not in all such cases anticipate a long-continued suspension of the sensation and other nerve-functions of the part.

Time will not allow me to speak of the healing of injuries of other tissues than these;* for I wish to devote the remainder of the hour to the consideration of some of the relations which the reparative process bears to those of inflammation, and to illustrate, with more pointed instances than I could refer to in the first lecture, the evidences of identity of the power exercised in the repair of injuries and in the developement of the germ.

It is not because we have any well-defined idea of inflammation that it is desirable to refer to it, as if it were a standard with which we might compare other organic processes; but because some idea of inflammation, however vague, mingles itself with nearly every thing that is considered in surgical pathology. Nowhere is this more manifest than in what has been written in surgical works upon the methods of repair; concerning which the general impression seems still to be, that a process of inflammation forms part of the organic acts by which even the smallest instance of repair is accomplished.

Now to judge whether, in any process of repair, an inflammation of the wounded part ensues, we have two kinds of evidence: namely, that which is derived from the presence or absence of the usually admitted signs of inflammation during life, and that which may be found in the presence or absence of inflammatory products, *i. e.* exudation-cells, after death. Each of these has its advantages; but in experimental inquiries the latter is by far the better evidence, and that which I have chiefly sought. Judging, however, as much as possible from both these forms of evidence, the processes we have traced appear to warrant these general conclusions:—

1. That in the healing of a wound by immediate union, inflammation forms no necessary part of the process; rather, that its presence always hinders, and may completely prevent it. The healing by immediate union should be a simple re-joining of the severed parts, without the production of any new material; and in the same proportion as, in any case, inflammatory matter is effused, either in or between the wounded parts, in that proportion does the healing deviate from the true and best process of immediate union.

2. For subcutaneous wounds and injuries, as in divided tendons, simple fractures, and the like, nearly the same may be said. Inflammation is excited by the local injury, but its products form no necessary part of the material of repair; rather, the more abundant they are, the more acute the inflammation is, and the longer it continues, the less speedy and the less perfect is the process of repair. For here the necessary or best reparative material is a substance which, both in its origin and its developement, declares its non-inflammatory nature; a substance which is produced without the signs of co-existent inflammation, and of which the developement is different from that of the true inflammatory products. And this, which is most evident in the case of the healing of subcutaneous injuries by bonds of connection, is probably equally true in the case of subcutaneous granulations.

But 3dly. In the healing of a wound by primary adhesion, or by open granulations, we have evidence of a process of inflammation, not only in the presence of its ordinary signs in a degree generally proportioned to the severity and extent of the injury, but in the character and mode of developement of the new materials that are formed for the repair. For these materials are, in all appearance, identical with those of such effusions of lymph as all are agreed to consider the effects of inflammation.

Still, 4thly, in these cases we have evidences that the inflammatory process is necessary for no more than the production of the organizable matter,—and, in the case of granulations, for the production of only the first portions of it. The right formation of

* The omissions related principally to the disproof of the opinion generally entertained,—that papillæ are not formed on the scars after cutaneous wounds; to the complete formation of the epidermis of the negro on the scars of even deep cutaneous wounds; to the remarkable power of repair shown by the cornea, as illustrated especially by Dr. Bigger, in the Dublin Journal of Medical Science, 1837, and by Donders, in the Nederlandsch Lancet; to the reproduction of the crystalline lens after cataract operations; and to the repair of fractured teeth by the formation of bone, as described by Mr. Tomes in his Dental Surgery.

the cells, and, yet more evidently, their higher organization into cellular tissue and cartilage, ensue only while the signs of inflammation are absent. They are manifestly hindered or prevented when signs of inflammation are distinctly present, or when its existence may be suspected in consequence of the presence of some irritation, as a foreign body, dead bone, or the like. The continuance of suppuration during the process of healing is no proof of the continuance of inflammation, if the account that I have given of pus be true.

In these modes of healing, therefore, we may conclude that inflammation is only partially, and at one period requisite; and that, in regard to its requisite degree, the least amount with which an effusion of lymph is possible is that which is most favourable to repair.

Lastly, for the process of healing by scabbing, the absence of inflammation appears to be essential: indeed, the liability of our own tissues to the inflammatory process, and to the continued effusion that it produces, appears to be that which prevents their injuries from being healed as easily and surely, by the scabbing process, as nearly all open wounds are in animals.

Such may be regarded as the relations of the reparative process to that of inflammation, as it is commonly understood; but, I repeat, such a comparison can be made only for the sake of deference to the general state of opinion in matters of surgical pathology. In truth, we know less of inflammation than of the reparative process.

But, admitting the share which inflammation has in the repair of injuries to be such as I have expressed, it appears necessary to consider next how such a process can be made to minister to repair;—what is the power that determines its results to be such, or of such a kind, as are required for the restoration of the perfection of the injured part? The mere act of inflammation in a part would not heal its wounds: it would only produce a material which might be developed into cellular tissue and cuticle, and in which blood-vessels might be formed. Some other power must inform the course of the inflammation, and determine its result towards the healing of the wound. And so with all the other special acts of which each process of repair consists; whether we assume the operation of an assimilative force, or detect germs of tissues, or productive cells, which we may regard as centres of power,—still we must admit, I think, that the reparative process is determined in every act according to the same law, and by the same powers, as those which actuated the developement of the germ. For in the repairs of even the highest animals we may discern all those features which I enumerated as characteristic of the power of the germ, and as distinguishing it from any force of assimilation, or any other force assumed in the explanations of the maintenance of the body by nutrition.

Thus—1st, the material for the repair of an injury is constructed according to no present model, such as is assumed for the hypothesis of assimilative force: it is developed from no tissue-germ left by the damaged part for the construction of its successor.

In the repair of a divided tendon, the whole length of the connecting bond is developed equally; or, if there be a difference, it is that the mid-space is in advance of the rest. No assimilative force in the ends of the original tendon can be imagined thus equally diffused, nor could germs for the growth of tendon have been strewn along the space left by the retraction. So, in the repair of fractures, the new bone is commonly formed first in contact with the original shaft, as if it were an out-growth from it; and here the assimilative force may have effect: but it is also often formed in detached parts, even outside the periosteum, at such distance from the old bone, and with such intervening tissue, that no act of an assimilative force can be reasonably imagined sufficient for the result.

What, then, can determine such a reconstruction of parts as this? Surely nothing but such a power as that which determined their original construction from the germ.

The identity of the power is, in the second place, manifested by its mode of operation. Whatever be the structure to be reproduced, it is constructed through the same stages as were traversed in its first developement. Witness the cases that I have referred to: in the two modes of development of fibro-cellular tissue for repair, both equally imitations of a natural developement,—in the two modes for the production of new bone, both alike repetitions of the natural developement of bone,—in the mode of developement of vascular loops, and of the walls of the blood-vessels. So, that, various as are the conditions in which we watch the process of repair, and various as the degrees of its perfection, yet is there no real variety of plan —no deviation from conformity with the law according to which the new structures are developed in the germ.

Observe, 3rdly, how, as in the germ, many independent developements concur to the attainment of the end. In the several layers of granulation-cells, while one portion are forming themselves to cellular tissue, another are constructing cuticle, and others are permitting and concurring in the progress of new blood-vessels. Or, in a wound involving many different tissues, we may discern the

material that unites each of them gradually assuming more of the characters of that which it unites, or that its position needs.

4thly. The limits by which the reparative process is bounded are the same as those to which the developement of the germ was confined. Great as the activity of the process may be in some instances, yet does it never achieve more than the power of the germ did. Trembley's hydra multiplied by mutilation fifty-fold: but the force thus manifested could not have been made to develope that hydra into any higher specific form, nor even, by expenditure in growth, to have formed from it an hydra of fifty times the usual dimensions. And so, in the repair of higher organisms, we find perfect tendon, perfect bone, perfect nerve, and of these just so much as is needed to restore perfection; but, except in disease, the reparative process never, in either the quantity or the quality of that which it produces, goes beyond the point to which the germ-power had developed the same part.

Lastly, the acts of the reparative process are in conformity with the conditions and the gradually-changing modes of action of the germ which we observe in advancing years. A part which is injured in the child is repaired with tissue proper to the childish state; the same part injured in the old man is repaired with some lower tissue, or with tissue like that which is natural to age.

Whether, then, we regard the exact details of the method according to which the reparative process is accomplished, or the end that it achieves, or the limits within which both its methods and its end are confined, we see alike the evidences that the power that actuates it is the same as that which actuated the developement of the germ. In every impregnated germ, we must admit that properties are implanted, which, in favourable conditions, issue in the power to form, of the germ and the materials it appropriates, a being like those from which it sprang. And mysterious as it may seem, yet must we conclude that a measure of those properties is communicated to all the organic materials that come within the influence of the germ; so that they, being previously indifferent, form themselves in accordance with the same specific law as that to which the original materials of the germ are subject. So, through every period of life, the same properties transmitted and diffused through the whole organism, are manifested in the determination of its growth and maintenance, in its natural degeneration, and its repair of every part, in accordance with that type or law which has prevailed in every individual of the species.

Thus the constancy of both the method and the end of the reparative process may confirm us in the belief of the essentiality, we may almost say the immutability, of specific characters. For it shows that with each of all the countless varieties of visible form and structure, which mark the specific characters of living beings, there correspond peculiar internal properties of its constituent matter—properties which are capable of transmission and communication to all that can be incorporated in the living body, and of accumulation in the form of germs; and which, in any way thus transmitted, can manifest themselves in the unchanging power of constructing and composing matter according to the one determined and specific type.

Thus, by watching the life of any being, in all the varieties of external circumstance and accident, and by seeing that, whatever be the deviation from its perfection into which, by the force of these, it is for a time compelled, it yet reverts to the same specific form,—or, if it fall short of it, assumes no lower one: by watching such a life, we discern an image of the constancy of the law of specific characters; we gain an assurance that matter was not, and is not now, cast without design into the world, to be shaped by the force of chance and circumstance, and to be raised or degraded by their various ebb and flow; that the living occupants of the world have been fashioned and adapted for it, not by it; and that each was from the first endowed with properties that might descend unchanged from one generation to another, and in their immutability might be a symbol of Him who at the first created them, and by whose unchanging Will and Power they have been ever since maintained and still subsist.

EXTRACT OF CLOVER.

The Shakers of Canterbury, N. H., prepare a delicate article, which is represented to possess very important properties, by boiling the blossoms of red clover (Trifolium pratense) till an extract is obtained of a certain consistency, recognised by them as being the medicinal point, and which is particularly used as an external application in ulcerations. Those who have made themselves familiar with this comparatively new preparation, say that it acts like a charm in altering the condition of the most formidable class of ulcers. Such, in short, are the favourable representations from reliable sources, that hospital surgeons might find it advantageous to use it at once, especially as it is so mild and delicate that no disturbance in the system may be feared, however liberally the extract is applied.—*Boston Medical Journal.*

Original Communications.

THE SUBSTANCE OF TWO CLINICAL LECTURES DELIVERED UPON THE CASES OF CHOLERA

Treated in the Royal Infirmary of Glasgow during the late Epidemic.

By Robert M'Gregor, M.D.
One of the Physicians to the Infirmary, and Lecturer on Medical Chemistry, &c.

"The wards were opened upon the 27th November, 1848, and closed upon the 10th March, 1849.

	Total Cases.	Cured.	Died.
Temperate and in moderate circumstances . .	60	40	20
Temperate, but in destitution	75	30	45
Destitute and dissipated .	40	7	33
In moderate circumstances but dissipated	15	5	10
	190	82	108

Mortality per cent. over all . . 56·84
" " for males . 62·74
" " for females 50· "

The above table was constructed with much care by our Resident Superintendent, Dr. Steel.

The premonitory choleraic diarrhœa (cholerina of the French), characterised by the light-coloured stools and the absence of colic pains, was treated with injections per rectum of two drachms of laudanum, with an ounce of water, and the exhibition of calomel by the mouth.

In the second or acute stage of cholera, the pulse quickens, the tongue furs, the features sharpen, the nose cools, a dark areola forms around the eyes, the eye-balls retire, rice-water vomitings and purgings, frequently attended with cramps, soon supervene, and are followed by the peculiar moan, restlessness, husky whispering voice, and the puckered appearance of the hands and feet, &c.

In the early part of this stage we bled copiously from the arm, and administered calomel by the mouth in the form of a pill, containing from two to five grains, every quarter of an hour until bilious stools appeared; and this was done upon the recommendation of Dr. Ayre's (of Hull) publications.

The bleeding was had recourse to in order to relieve the heart, which becomes so much weakened in the course of the disease in its action, by diminishing the volume of blood and rendering the resistance to be overcome less, and thus to enable the patient to go through the collapse with greater ease if possible. Dr. Robertson of Edinburgh is of opinion that this treatment in their hospital was attended with good results. The calomel was administered with a view to restore the suppressed secretion, but more especially the bile, and in doses frequently repeated, in the hope that by some calomel being constantly kept in the intestinal canal, a portion of it might have been absorbed; yet, in many cases, so frequent was the vomiting, so great was the washing-out per rectum, and so arrested was the absorption from the muco-gastro-intestinal canal,—that we had no evidence of the retention or absorption of any of the medicine, although upwards of 500 grains had been swallowed.

The heat of the body was kept up as much as possible by the warm moist blanket, by bottles filled with hot water, or by heated air readily applied by placing a frame of wicker or wire work over the patient in bed, covering this with blankets, and suspending a lighted Davy's lamp from the top of the frame underneath the blankets. Trials of this mode were made by Messrs. George Buchanan and Alexander M'Fie Smith, the fever clerks (who took charge of the cholera wards in addition, until the duties became too heavy for them to overtake both), upon their own persons, as well as upon cholera patients, and it was found to be very manageable, though dry heat is objected to by some.

To relieve or check the vomiting, opium, sinapisms, creosote, chloroform, oil of cloves, prussic acid, &c. were used,—and opiate enemata, with the usual astringents, such as kino, catechu, acetate of lead, gallic acid, &c. were administered to cure the purging; but frequently they all failed: so that, after some weeks of hospital experience, we relied most, in the acute stage, upon bleeding, calomel, and opium if retained.

In this acute stage of cholera we see the effect of the operation of some poison upon the human system, but whether that be atmospheric, telluric, miasmatic, electrical, insectile, or what it may be, I know not; but we do observe a constant pouring out of liquids of a rice-water, pease-meal, or even hæmorrhagic appearance, into the stomach and intestinal canal,—a draining of the thin parts of the blood—viz. the watery and more soluble saline—some albumen, and perhaps fibrine, with epithelial scales. Dr. Robert Dundas Thomson views these as lymph, and hence he terms this stage the *lymphatic*.

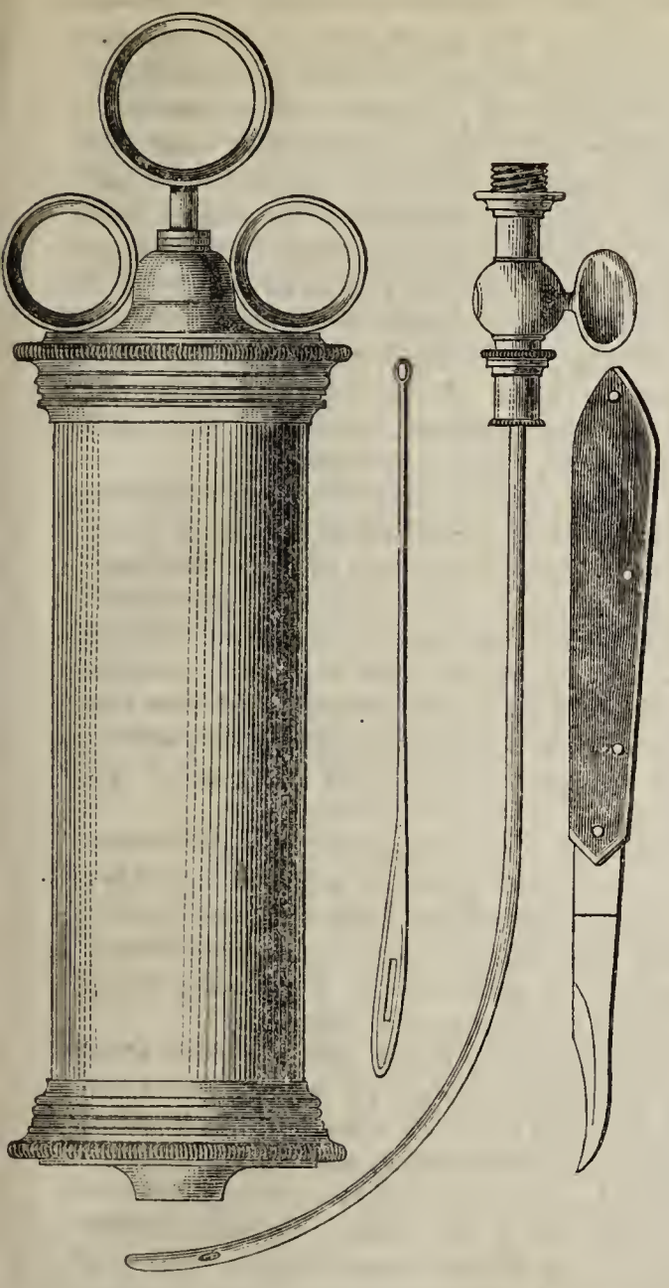
Albumen, in quantity more or less, I have invariably detected in the evacuations, and

in the first portions of urine passed after the stage of collapse has been got over. Some have stated that it is difficult to see how the vessels should have the power of separating the red globules from the serous or aqueous portions (liquor sanguinis), and permit the latter to escape into the intestinal canal, as in this disease; but do we not observe how blood flows from an incised wound, but gradually red blood ceases to come, and lymph issues? and in the worst cases of cholera, how frequently did the excretions contain blood!

When this draining continues, it introduces the patient into the third stage, or that of collapse, in which the vomiting, purging, and cramps often cease. The countenance is blue and collapsed, the nose is icy cold, the voice is weak and often reduced to a whisper, the eye-balls are much sunken, the breath is cool, the extremities are cold, pulseless, and shrunken; the gall-bladder is generally full, yet little or no bile flows; the urinary bladder has been found empty for several days; sanguification is disturbed or arrested, and the secretions are at a stand, or nearly so. The blood, which flows but sparingly in this stage, is dark and tarry-looking: its specific gravity, which we always tested when procured in sufficient quantity as it flowed from the arteries or veins, was invariably high, and often attained to 1·078 instead of 1·054, being a fair average of health; while the specific gravity of the serum indicated 1·056 instead of 1·028 or 1·029. These observations would tend to establish and confirm a diminution of the thin portion of the blood, and a relative increase of the heavy. During the stage of collapse, we continued the frequent administration of calomel, kept up the heat as far as possible, and administered internally frequent doses of the aromatic spirit of ammonia. The external application of aq. ammon. to the region of the heart, and galvanism to the spine, with other powerful stimuli, were had recourse to without having produced much apparent benefit.

At the close of this stage death ensues, or the stage of reaction begins, and is announced by the return of the heat, pulse, and voice; by the disappearance of those dark ecchymosed spots or patches sometimes observable upon the inner canthi of the eyes and upon the point of the nose; and by other changes so well known to all who have seen cholera. This stage of reaction may not end in complete convalescence, but, at the end of a day, or even a week, in that coma which supervenes so insidiously, and which is so difficult to remove. Although compared by some to typhus fever, it bears but little analogy to it, being often accompanied by a full, solw, and labouring pulse, stertorous, loud, and snoring breathing, insensibility, and a highly red congested condition of the eyes and of the brain, as seen at the autopsy. Our treatment of this stage consisted in the application of leeches to the temples, or bleeding copiously from the temporal artery, and blistering the head and spine. The drinks used during the several stages of the disease were principally albuminous, or sweet milk and water, as recommended by Professor Andrew Buchanan and others.

Such had been the treatment during the greater part of the epidemic, but towards its decline there was a deviation. From a daily observation of the great want of the power of absorption in the gastro-intestinal canal; from the circumstance that several of our patients swallowed five hundred grains and upwards of calomel within thirty-six hours without having been salivated (though some in the end did experience severe salivation, rendering their convalescence tedious); from observing the great influence possessed by opium over the premonitory choleraic diarrhœa, and the uncertainty of throwing large doses of that drug into the stomach or rectum in the draining stage,—I resolved upon the injection of opium into the veins. A solution was prepared by dissolving five grains of the crystallized muriate of morphia in an ounce of pure hot water. Thirty drops of this solution, mixed with six ounces of pure water, at a blood-heat temperature, were injected into one of the veins of the arm by means of the following apparatus, which was adapted by Mr. Hilliard, cutler to the Infirmary, and consists of a powerful six-ounce brass syringe, with a stop-cock on the point, and of a silver tube, being the inner-eyed half of a No. 2 male catheter (from which the outer half had been cut off), and having attached to its cut end a brass mounting to screw upon the point of the stop-cock or syringe. At first the ordinary lancet was used, but at times there was a difficulty in introducing the point of the catheter or silver tube. I then had prepared a modification of Syme's abscess lancet, by cutting off a portion of its sharp point, and removing its curve anteriorly, retaining the handle. A probe was also used. The operation now consisted in filling the syringe as above, in expelling a small quantity of the liquid so as to ensure the absence of air, then turning the stop-cock, and laying the instrument aside until the vein was opened, which was done as follows:—the skin over the vein, bandaged above, as usual, was pinched between the finger and thumb transversely, and transfixed with the lancet so as to expose the blue contour of the vein, which was now entered by the lancet, introduced in the usual manner, and retained; the handle is turned to the horizontal, so that the blade opens up the incision laterally.



The probe is now introduced behind the blade, which is then withdrawn; while the former is left, and can be retained within the canal of the vein when the patient is being bled, if you desire it,—or if not, until you leisurely introduce behind its flat end the point of the catheter of the syringe. Satisfied that it is fairly within the tube of the vein, you remove the ligature from off the arm, turn the stop-cock, and then cause the liquid to glide easily in by pressing the handle of the piston-rod till within half an inch of home. It is desirable to proceed no farther, in case of any air having been admitted by the side of the rod. There is a risk of inducing inflammation if you miss the vein and inject into the cellular membrane. There is also an immediate feeling of pain, whereas in injecting into the vein there is none.

The effect of the injecting of the solution of morphia was highly encouraging: it checked the vomiting, purging, and cramps in most cases, and the patients declared themselves relieved; some slept, and others said they felt as if they were becoming drunk. The operation, as above detailed, is simple, and its mode is readily acquired,—so much so, that the indefatigable cholera clerks, Messrs. Willis and Jacob, at last injected the prescribed quantities in their respective wards, the one without the aid of the other, but simply with that of the nurse.

For injecting large quantities of liquids into the veins, the apparatus employed by Dr. Robertson, of Edinburgh, would have been preferable; but our object was to inject a quantity not exceeding six ounces: and for this I would decidedly prefer the syringe. Calomel can be administered by the mouth when the discharges have been so far checked by the morphia; or mercury may be introduced into the veins in one of the following forms:—

Take one grain of corrosive sublimate; five grains of iodide of potassium; warm water, an ounce. Dissolve.

A liquid-drachm of this solution, mixed with six ounces of warm water, may be injected as above, and repeated if required. Corrosive sublimate coagulates albumen, although an excess of serum, containing the albuminate of soda, redissolves the coagulum: and hence the reason why the above solution, which has no tendency to coagulate the serum of the blood, was employed. Or

Take of the cyanide of mercury, in crystal, one grain; warm water, an ounce. Dissolve.

A liquid-drachm of this solution, containing one-eighth of a grain, may be used as above. These excite the action of the liver, and produce copious biliary stools. This I have verified upon many dogs, as well as upon cholera patients. A middle-sized dog (of thirty pounds weight) can bear a quarter of a grain, and recover perfectly; but half a grain has killed him. It is well known, however, that dogs will not bear mineral purgatives so well as vegetable. In some cases of extreme collapse we observe dark ecchymosed-looking patches, more especially at the inner canthi of the eyes,—seemingly from a stagnation of black blood. Now it is remarkable how readily after the establishment of reaction these are removed. It is also singular to observe how much the blood alters in its appearance and specific gravity; for in individuals labouring under the coma, who have had two or three days of convalescence between the collapse and coma, and who during that period imbibed a considerable quantity of albuminous or milky fluids, the specific gravity of the blood stood only 1.050, and it was invariably of a scarlet red.

We would infer from that observation that there must have been a very active absorption of liquids from the date of the crisis. Many physiologists are of opinion that the urea is formed in the blood, and that it is merely eliminated by the kidney. In fatal cases of coma, where there had been no secretion of urine for days, I have examined

the blood within the head, and could detect no urea; neither could Dr. Robert D. Thomson. In all the first portions of urine passed there is an entire absence, or nearly so, of urea. From observation of the generally blue aspect of the body in cholera patients in the stage of collapse, of the dark ecchymosed spots observed at the inner canthi of the eyes, and of similar dark large patches found after death in the stomach, brain, &c.; and from the dark tarry condition of the blood, with its increased specific gravity,—it might be allowable to suppose a deficiency of oxidation, or a carbonization of it. From noticing, also, the rapidity with which these ecchymoses disappeared when the collapse passed away, it occurred to me that the injecting of some safe oxidizing liquid by the syringe into the veins, might be beneficial; and accordingly, after having experimented carefully upon the blood with many substances, the hypochlorite of soda (Labarraque's liquor) was fixed upon as being highly oxidizing, and probably one of the most genial to the blood, by reason of its base being soda.

Formula.—A solution of bleaching powder (hypochlorite of lime) is made in water, filtered, and rendered of the specific gravity 1.010 of the hydrometer. This is to be treated with a solution of the super-carbonate of soda as long as any precipitation occurs, and no further. The supernatant liquor is now to be filtered and heated, so as to remove any free chlorine, which, if present in the liquor injected, would, I apprehend, be productive of bad consequences. Before using it, let it be tested by its action on the blood flowing from a vein, which should be rendered of an arterial hue, and upon a protosalt of iron, or mercury, which are almost instantaneously peroxidized by it. When this solution is kept in a well-stoppered phial or jar for a length of time, it converts itself into chloride of sodium and chlorate of soda; but if it be in contact with an oxidizable material, that substance is oxidized, and the principal residue is chloride of sodium. It was immediately before the closing of the wards that this line of treatment suggested itself, and we only had an opportunity of using it in two cases, one of which proved fatal, being the very last case admitted: the other recovered. I shall now give a condensation of this case from the journal.

Hugh Quigley, æt. 34, admitted Feb. 10th: labourer. Patient says that ten hours ago he was seized with purging of so severe a character, that he describes himself as having "passed water by the gallon." After four or five evacuations, vomiting commenced, which, he says, was the water which he drank; says, also, that he has had severe cramps for the last four hours: has passed no urine since the commencement of the attack. On admission, is in extreme collapse; has no pulse at the wrist; brachial pulse perceptible; heart's action feeble; laborious respiration; voice, face, and all characteristic of choleraic collapse. Has had no medical treatment; says that the evening before, being Saturday, he took his habitual dram of three glasses of whisky.

3 P.M.—Injected forty drops of the solution of morphia in tepid water into the vein above the bend of the arm, and had heat and sinapisms applied externally, with aromatic spirit of ammonia internally.

8 P.M.— Patient improved, and heart's action is of better strength, although there is only an occasional wave of blood reaching the radial artery: he is evidently narcotized. —To have three ounces of the solution of the hypochlorite of soda and three ounces of warm water mixed, and injected into the same vein as was previously opened, and to have two grains of calomel every hour pro re nata.

11th, 10 A.M.—General aspect of patient improved, and pulse at wrist perceptible; the effects of the morphia have passed off; slept the whole night, and has neither vomited or purged.—To have some warm tea, and discontinue the ammonia.

10 P.M.—Has had a slight bilious stool an hour ago; passed no water; gums are tender.—To have an enema of black soap, with a little turpentine, and discontinue the calomel, of which he has had fifty pills.

12th, 10 A.M. — Had copious bilious stools, and voided about half a pound of pale urine, having a specific gravity of 1·012, being albuminous and devoid of urea. On the 13th, was seized with coma, for which his head was blistered, with relief. On the 15th, had an attack of pleurisy, for which he was bled and blistered, and afterwards discharged cured.

The second case, and the last admitted into the wards, was that of James Finlayson, moulder, Drygate, on the 5th March, at 10 P.M., who says that he was seized this forenoon, while walking the street, with purging, soon succeeded by vomiting and cramps. He is now almost completely hopeless: is cold, pulseless, cramped, &c.; had aromatic spirit of ammonia internally, more solito; with, after an interval, a scruple of calomel; heat, sinapisms, &c., externally. Three ounces of Labarraque's liquor and three ounces of warm water were injected into the brachial vein four hours after admission.

6th, 10 A.M.—Still living, and found himself better, he says, after injection.

2 P.M.—Died.

These I publish in the hope that a more extended trial may be made of them by physicians attached to hospitals in which cho-

lera now prevails. Into the question of the contagion or non-contagion of the disease I am not disposed to enter: that it is entirely non-contagious I am not prepared to state; but that it is mainly propagated by other than the laws of contagion, I am satisfied; and in support of that I may mention the case of the island of St. Kilda, one of the Hebrides, removed sixty miles from the nearest inhabited land, which was visited in 1832 by cholera.*

ON SOME OF THE

MORE PRACTICAL POINTS

CONNECTED WITH THE

TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
Assistant-Surgeon to the Royal Orthopædic Hospital.

[Continued from p. 21.]

On the severe kinds of Curvature of the Bones of the Legs:—Rachitic Curvatures.

In my last paper I described two of the most common kinds of deformities, namely, simple outward curvature of the bones of the leg, and simple knock knees, or *genu valga*. I also stated that, although many of the slighter cases recover without any mechanical support, by far the majority get worse, where they are left "to grow out of it," and that this idea is most fallacious, causing much time to be thrown away before the treatment is commenced, and so often risking the ultimate recovery of the child. The treatment, at the same time, is so simple, that a little care and attention will easily keep the splints and straps applied in a manner to stop the deformity in the early stage.

In severe cases of knock knees, the angle formed on the outside of the knee-joint may be so great, that much difficulty is experienced in keeping the simple straight splints in position, the two points of contact being the trochanter of the femur and the outer ankle and edge of the foot. The splints either slip forwards or backwards, and more frequently the former, when, of course, all action of the straps upon the knee-joint is lost. In these cases some means must be taken to adapt the splint more closely to the shape of the limb; and this is best done by having a hinge at the point of the splint corresponding to the outside of the knee-joint, the motion of the hinge being commanded by the common male and female screw, which can keep it at any angle, being placed on the outside.

I have employed the following kind of splint, made on the above principle, which enables the patient to move about, at the same time that the splint is kept in action, and in close apposition to the limb. Two narrow splints, about an inch and a half wide and a third of an inch thick, and long enough to extend from just above the trochanter down to the outer edge of the foot, are jointed at the point opposite the knee. To the two pieces thus connected a male and female screw are attached, so keeping the angle of the splint fixed in any position. The whole splint is evenly, but not thickly, padded with wadding, and covered with wash-leather. The splint is fixed to the leg in the following manner:—A stocking is made of wash-leather, to lace in front, and to extend from the instep up to the groin. To this stocking the splint is to be attached throughout its whole length, so that when it is applied evenly to the outside of the limb, and the stocking laced closely up, it cannot shift its place. Should it, however, be inclined to do so, owing to the severity of the knock knees, this can be guarded against, by having a small slide made of thin iron to fit into a box in the boot or shoe, just in front of the heel, with a hinge to allow of motion at the ankle-joint. The upper ends of the two splints are also more firmly fixed, by having a broad strap or belt to pass round the pelvis and loins. The splints being thus firmly applied, the screw on the outside of each knee is gradually turned, to keep up traction on the joints sufficient to draw them outwards more and more every second and third day. If the knee part of the leather stocking do not fit very close, an additional webbing strap must be passed round the joint and splint; otherwise, when the screws are turned, the splint will

* So very secluded is this spot in the Western Ocean, and so seldom visited (for the inhabitants, in consequence of the want of harbourage and the difficulty of landing, have no boats upon the island), that the Rev. Mr. M'Kenzie, then their clergyman, very lately informed me that he had been, in his services, praying for his late Majesty William IV. twelve months after the accession of *Her* Majesty to the throne!

move without acting on the knee. A splint made and applied in the above manner looks exceedingly neat, and acts very efficiently, the child being enabled to walk about without any fear of the apparatus being displaced, at the same time that the knee-joints are kept in position. The small piece of iron fitting into the boot is a very efficient means of preventing the lower end of the splint from slipping forwards on to the instep.

Another very useful apparatus employed at the hospital by Mr. Tamplin, and adapted for the treatment of the severest kinds of genu valgum, is the following; it consists of a kind of trough, having a back and outside piece, jointed opposite to the knee, and moved at any angle by the common male and female screw. The splint is well padded, and has two sets of straps, so arranged that they fix the limb to the outer and back portions of it, by having one strap passing through the outer and another through the back part of the splint alternately, from the ankle up to the groin. The points to attend to in using it are—To fit the splint closely to the shape of the limb, by screwing it to an angle to correspond with the angle of the knee; to roll the limb evenly from the toes up to the groin; to see that the pad lies smooth and even; to place the limb quite flat in the splint, so that it may not roll on its outer side (when all action on the joint would be lost); to tighten the straps, beginning with the ankle one, making the pressure less on the thigh than leg. A very broad strap, with a separate thick pad, will be required for the knee, to be placed on the inside; this strap should be tightened sufficiently to keep the splint and knee in close contact, without producing pain. The limb being firmly fixed to the splint, the screw on the outside is to be gradually turned every second or third day, till the joint is straightened, which is ascertained by the leg and foot being brought into a line with the thigh and hip. This is a guide, provided the leg is lying flat in the splint. If it be rolled over on its outer side, it will look straighter than it really is. The splint I have just described is only used for the severest cases of knock knees, when the patient is obliged to keep the horizontal position during the treatment.

Many surgeons recommend the use of "irons" for these cases of knock knees, and generally with a joint at the knee; I do not think they answer the purpose nearly so well as the splint I have described. The only point in their favour is, that they admit of being made neater, occupying less room, and therefore are not seen so much beneath the dress. The narrow wooden splint, however, that I first described, attached to the leather lace stocking, occupies very little more room, and has the advantage of not being so heavy nor so costly. The joint at the knee in the irons is decidedly bad, for no knock knee can be straightened if flexion be allowed before the bones are brought into a straight line with each other. I have often seen children who have worn irons for a long time without any benefit, where there have been joints at the knees.

In the most severe form of knock knees it may be necessary to divide the tendon of the biceps flexor cruris. In cases of long standing, when this muscle has become so much shortened as to be a cause of preventing the straightening of the joint, mechanical means only may not be sufficient to overcome the deformity. A distinction must be made, however, in examining the joint, between the voluntary contraction of the muscle by the patient, and the permanent contraction which is found when the attempt is passively made to move the joint. The following is the mode of performing the operation:—

The patient is to be placed on a couch or bed, lying on his face, and a little on one side. The foot of the leg to be operated on is to be held by an assistant, who grasps the ankle with his right hand, while he places the left beneath the knee, supporting the inside of the joint on the palm of the hand. The business of the assistant is to make forcible traction on the leg, to put the tendon of the biceps cruris as much on the stretch as possible. The surgeon then, feeling for the inner edge of the tendon, passes a narrow sharp-pointed scalpel close to its margin, about two inches above its insertion into the fibula, in a direction that it may turn underneath the tendon, without going deeper; the edge of the knife is then turned upwards, and the whole mass between it and the skin

is divided. In the majority of cases the separation of the tendon can be felt and heard, at the same time that the joint yields. A compress of lint is immediately placed upon the wound, with a strip of adhesive plaster and a bandage. Should there be bleeding, which there is sometimes from one of the muscular branches, the compress should be graduated and thick, to guard against effusion, which might terminate in suppuration; an evil that I have seen occur. The joint is to be fixed by a tin splint with a pad, bent at an angle to fit the outside of the knee, and a bandage passed round it from the foot upwards. The limb is to be kept quiet in the horizontal position four or five days, or a week or longer if there be any pain in the wound. The splint I have described is then to be applied, and the joint to be gradually straightened, all pain from mechanical pressure being avoided, as well as that within the joint itself, beyond what the patient can easily bear, as the alteration in the position of the bones is taking place. In very severe cases, the band of the fascia lata, which passes down over the outer condyle and fibula, may be so tense as to present an obstacle to the treatment. Should this be the case, it will be discovered after the division of the tendon of the biceps, by forcibly drawing the leg in a direction to put it on the stretch; and, if satisfied of its existence, the knife must be passed beneath it, and its division effected by cutting upwards towards the skin.

Another point to be considered in these severe cases of genu valgum, is, whether the external lateral ligaments of the knee-joint take part in keeping up the deformity, owing to the unnatural degree of shortening produced in them from the relaxed condition of the internal ligament, allowing the head of the fibula to be approximated to the external condyle of the femur, and to become permanently shortened by long continuance in that position. I had a case under my care, about three years ago, of a boy with most severe rachitic knock knees, in whom the long external lateral ligament, as well as the biceps flexor cruris, were rigid and prominent to a marked extent, and more so in the left than right leg. I divided the ligament on this side, and the biceps on the other leg (at different periods), and the two joints were straightened with equal facility. The boy is now perfectly straight, walking about with merely the curvature of the tibia, which is diminishing with the growth and elongation of the bone. He is otherwise rachitic, having curvature of the spine as well.

In dividing the biceps, the peroneal nerve has to be avoided: in many cases it can be felt lying to the inside of the tendon, a groove or interspace separating the two. The knife must be very carefully passed along the edge of the tendon, and kept in close contact with it, the nail of the fore-finger being a guide to the entrance of the point of the knife. In other cases the nerve cannot be felt till after the division of the tendon, owing to its keeping its relative natural position beneath it: it then starts up, and feels like a tendinous cord: it is known to be the nerve, however, from its rounded form, and from its moveability, as well as by tracing it down *behind* the head of the fibula, to penetrate the long peroneus muscle. If the nerve should be accidentally divided, those muscles supplied by it are paralyzed, and the foot falls downwards and inwards. It is some time before the power returns (but it does). I once divided the nerve, and it was upwards of six months before the patient had the control over the muscles sufficiently to turn the toes and foot upwards and outwards. It is an accident, of course, to be avoided, if possible.

Having considered some of the principal points connected with the simple curvatures of the bones of the leg, and with the weakness of the knee-joints or knock-knees, I shall proceed to those of a more serious kind.

Rachitic deformities of the bones and joints.—It is much easier to define the symptoms of rickets than to describe its nature and causes. The symptoms are curvature of the bones in various directions, producing more or less deformity according to the extent to which they yield. Sometimes all the bones in the body are affected, with the exception perhaps of those of the feet and hands: there may, however, be a disproportion in their size, if not in their shape. In the most confirmed cases the bones of the head and face are altered in size and shape: the spine

and ribs become displaced, producing the most frightful cases of latero-posterior curvature, either to the right or left side, and very frequently to the latter. The clavicles become acutely curved forward, often giving the appearance of the bones having been fractured. The humerus and bones of the fore-arm—the latter more than the former—are altered in shape, the radius and ulna being curved forward by the action of the principal flexors of the wrist and fingers. The pelvis may also become compressed and narrowed in various directions inwards, so narrowing the upper and lower cavities; the weight of the trunk, through the sacrum, pressing the bones downwards against the head of the thigh-bones, which, in their turn, push the anterior portion of the pelvis inwards. The thigh-bones are curved forwards and outwards, the trochanters being prominent, from the altered position of the necks of the bones, being more horizontal than oblique. The tibia and fibula may be curved in almost any direction, either forwards or outwards, or both, and sometimes, though more rarely, inwards. The prominent feature, also, is the enlargement of the epiphyses of the long bones, which is more marked in the lower ends of the radius and ulna and condyles of the femur. The lower end of the tibia is also enlarged; but some of this appearance is given by this part of the bone being curved inwards, which then renders the malleolus more prominent; whereas, in the bones of the fore-arm, it is very common to see their lower ends much enlarged, without any curvature existing.

Rickety children are generally of a sallow and dark complexion, with little development of the muscular system. The lymphatic glands, also, become enlarged, those of the abdomen often to a marked extent, interfering with the functions of the intestines, and causing enlargement of the abdomen from flatus, and disordered digestion generally. The bones are generally small in size, rendering people so afflicted short in stature.

With regard to the *nature* of *rickets*, the following description given by Mr. Stanley, in his recent work on Diseases of the Bones, I shall quote, as including most of the important points connected with the subject:—"The first indication of rickets in a bone is a diminution of its firmness, from the separation of its lamellæ and fibres, accompanied by an altered character of its medulla. Its tube-cells, and the interstices of its lamellæ and fibres, become filled by a serous fluid; at a later stage this fluid is replaced by a gelatinous substance, which becomes organized, and passes into the condition of a moderately firm, elastic tissue, with minute cells dispersed through it. Accordingly, at this period, the bone consists throughout of a sort of cartilaginous tissue, which will bend without breaking, and through which a knife may be readily passed. Within this tissue distinct roundish pieces of a bluish transparent substance are occasionally observed; these are apparently some remains of the original fœtal cartilage. Hitherto it has been supposed that the change in the rickety bone consists simply in the reduction of it to its cartilaginous elements, and that accordingly its chemical condition is the same as that of bone from which the earthy matters have been abstracted by an acid; but, in the recent analysis of a rickety bone, it is shown, that besides the diminution of its earthy salts, there is also a change in the animal matter, so that the extract obtained from it by boiling does not yield either chondrine, or the gelatine of bone."

The cause of rickets is difficult to trace. It generally shows itself after birth within the first twelvemonth: it has, however, been noticed in the fœtus "in utero." The important point to decide is, whether it depends upon some constitutional taint allied to scrofula, or whether it may be superinduced upon a constitution perfectly healthy at the time of birth. I believe that confirmed rickets, by which I mean, where the bones generally are affected, the disease is constitutional, and that its appearance may be delayed for a longer or shorter period, according to the circumstances under which he child is brought up: the most important of which are the character of the child's food, and the air the child breathes; and these will generally be found to be unfavourable for the proper nutrition and growth of the child. The majority of cases of rickets no doubt occur amongst the poorer classes, who live in close confined situations, and seldom give

their children an opportunity of breathing pure and fresh air, at the same time that the mother's milk will be found to be both poor and deficient in quantity: the consequence of which is, that the child is never satisfied with the food natural for it at this age, or else it is given food that it cannot digest. No nutrition can then take place, from the want of assimilation, and therefore no proper secretion and devolopment of any of the tissues of the body; for it is not only the bones that are weak in rickets, but all parts of the body partake of the same derangement: the bones show it the most, from the effects being of a nature so marked, and existing in parts of the body that become *visibly* deformed. The muscles, ligaments, and the skin itself, all show symptoms of want of proper development, and, in many cases, the glandular system generally.

Though the majority of cases of rickets exist amongst the poor and ill-fed, it is not unfrequently met with amongst the better classes, whose children are not placed under these unfavourable circumstances. In this class I believe there will always be found to be some scrofulous taint in the constitution, as evinced by other branches of the family. I am attending in two families at the present time, in which there is a combination of true scrofula, as evidenced by the frequent recurrence of large glandular swellings about the neck, and terminating in abscesses in some of the children; while others have curvature of the bones of the legs and thighs, with enlargement of the epiphyses of the long bones, and stinted growth, with all the appearance of true rickets. One point worthy of remark is, that the scrofulous abscesses and the curvature of bones exist in separate children: in no two are they combined out of seven that are afflicted. In another family, there are four children affected with most severe rachitic curvature of many of the bones: but, though of a scrofulous family, no external glandular swellings have formed. I think, so far as my own observation has gone (though I am not prepared to lay it down as a general rule), true rachitis is unaccompanied with glandular abscesses; and that in the genuine scrofula, where the abscesses are so commonly formed, the bones are seldom affected with curvature: the spine, however, is an exception: but then, in true angular curvature, there is always disease of either the intervertebral substance, or of the vertebræ themselves; in fact, loss of substance from caries and absorption.

The most serious deformities produced by rickets are in the spine and in the bones of the lower extremities; of the former I shall speak hereafter. The thigh-bones may be curved outwards and forwards, or in either direction singly, but more frequently together. The bones of the legs take also a variety of curves, the most common of which is, that of outwards and forwards, or simply forwards, producing a sharp angular projection of the anterior spine of the tibia. In most of these cases of anterior curvature of the tibia, whether inwards or outwards, at the same time there is found to be knock-knees, also depending upon many causes: namely, the altered direction of the shaft of the bones of the thigh and leg throwing the knee inwards—an altered shape or position in the condyles of the femur, the inner one projecting to a greater extent than natural—a relaxed condition of the ligaments of the joint, and the action of the biceps flexor cruris: all of these may tend to produce and to increase the knock-knees when depending upon rachitic curvature of the bones.

The curvature of the femur in rickets does not always take the same direction; the most common are the following:—forwards in a line to increase the natural curve of the bone, making one general bow from the great trochanter down to the condyles. In some of these cases the curve just above the condyles is more acute than elsewhere, giving a projection very much resembling a badly united fracture in this situation, and causing the whole knee-joint to be pushed backwards, and bringing the strain and weight of the body unequally upon the upper half of the tibia, and in some cases producing a slight bend backwards of this part of the tibia. This kind of deformity weakens the knee-joint much more than knock-knee. This alteration in the position of the condyloid portion of the femur is no doubt produced and owing to the want of firm junction of the epiphysis with the shaft of the bone, admitting of displacement or

tilting of the one portion upon the other.

Simple outward curvature of the femur may exist with such slight inclination forward as to admit of special distinction; it is, however, rare. The most frequent kind is outwards and forwards, which at the same time gives a twist and rotation outwards to the condyles, and combined with the altered direction of the neck of the bone, makes the inner condyle more prominent than natural, and is the cause of the knock-knee that generally exists.

The rachitic curvature of the femur never takes a direction inwards or backwards, at least I have never seen it; and when we consider the original shape of the bone, and the direction in which the weight of the body tells upon it, through the neck and condyles, it is difficult to conceive the bone yielding in either of these directions.

The bones of the leg may be curved in all directions in rickets,—the most common are outwards and slightly forwards, and severely forwards only: the curve outwards is generally situated low down, and very abrupt, being produced at the point of junction of the lower epiphysis, the bone yielding to the weight of the body in this situation, from the want of ossific continuity; the curve is always lower down than in the simple curvature unaccompanied with rickets, which I described in a former paper. The tibia generally has a tendency to curve forwards also in these cases, owing to the lower end of the bone being displaced backwards as well as outwards, at the same time that the curvature forwards of the femur also assists, owing to its throwing the weight of the body on the knee-joints in a line anterior to the perpendicular one it ought naturally to have.

Simple curvature *forwards only* of the tibia and fibula never occur, I believe, but in rickets: it is often most acute, in some cases forming a sharp angle rather than a curve; it is always in the lower third or half of the bone. The lower end of the tibia is turned backwards underneath the shaft of the bone, which causes the os calcis to project behind, and the tendo-achillis to stand out at some distance from its natural position, widening the leg just above the heel. The tendon is often so rigid that it may become an obstacle to the straightening of the bone.

Curvature inwards of the tibia is rare; it may exist, however, and is always accompanied with genu valgum. It is not uncommon to see the lower half of the tibia inclining outwards while the upper half remains straight: this may give the appearance of the bone being curved inwards when it really is not so.

Curvature backwards is more rare still; it may exist where the head of the bone becomes displaced backwards, beneath the condyles of the femur, from relaxation of the ligaments, and from want of muscular power in the extensors; or, as I have already stated, from the curvature of the femur forwards being situated low down, and very acute, and so tilting the condyles upwards and backwards, and taking the head of the tibia with them, and bringing the strain upon the lower portion in a direction to bend it backwards.

Outward curvature of the femur, with simple outward curvature of the tibia, is not so common as the knock-knee. When the former exists the knees become separated to a great extent; and in extreme cases the curve formed by the thigh and leg may be so great that the legs form a complete oval when the ankles are approximated.

In rachitic genu valgum the feet are generally flattened to a greater or less extent, according to the severity of the deformity: in some cases complete valgus is produced, the outer edge of the foot projecting some way beyond the outer ankle, while the inner is rounded and projecting beneath the inner malleolus. In other cases the foot is not so much flattened, but is curved inwards at its anterior half, causing the great toe to point towards the opposite one.

Of the Treatment of Rachitic Curvatures of the Bones of the Lower Extremities.

Whatever the true nature of rickets may be, whether it be scrofula or a peculiar habit of constitution, there can be no doubt of the importance of attending as much to the general health as to the local deformities in

any treatment it may be thought advisable to adopt. I have no doubt in my own mind of the necessity of placing the child in a situation to breathe pure air in the country, out of the neighbourhood of large towns, as one of the most important parts of the treatment to be recommended, and always to be adopted when practicable: unfortunately, however, the majority of children who are afflicted with rickets are so circumstanced as not to have the means of receiving this all-important benefit, owing to their parents generally being unable to meet the expense necessarily attendant upon it. Good wholesome diet, consisting of pure milk, meat if the child be old enough to take it, strong broth and beef tea. If the child be at the breast the milk of the mother should be inquired into, and if poor in quality or quantity the child had better be weaned at once, to avoid the supposition of the child being properly fed because the mother has it always at the breast, the real fact being that the child never has enough food from this source, and what it has gives very little nourishment. When a wet-nurse can be obtained under these circumstances, it always should be. Every medical man must have seen poor emaciated children, when the mother has but little milk, constantly crying and craving for the breast, but never satisfied, as soon as the wet-nurse is procured become quiet, and only requiring the breast at stated periods, and at the same time immediately begin to thrive and grow.

With regard to the medical treatment of rickets, very little can be satisfactorily adopted which may be said to act *specifically* on the disease. For the function of digestion is the one that is principally disordered, as evidenced by the little power the most nutritious food has in producing the proper healthy development of any part of the body: any medicines, then, that in other cases of debility of the system may have the power of acting as tonics, owing to the stomach being in a condition to assimilate them properly, fail in their object when this power does not exist. The secretions generally should be attended to, by giving mild alteratives, with occasionally a mild aperient. The best tonics are preparations of steel, the tinctura ferri sesquichloridi, the syrup of iodide of iron, and the medicine lately introduced, the cod-liver oil. The powdered bark, in a small quantity of port wine, twice a day, I have seen give tone and vigour to the stomach, and assist digestion generally. Lime-water and phosphate of lime have been recommended upon physiological and chemical principles, supposing that they may make up the deficiency in the earthy part of the bones; I cannot say from my own experience that I have seen them do much good. Cold bathing, and friction with rough towels, regularly employed every day, in some cases may assist, by increasing and stimulating the circulation, and in exciting the secreting organs generally. The mere fact of bathing the legs only I believe does little or no good.

I shall speak of the other points in the treatment in my next paper, and of the genu introrsum et extrosum, and then proceed to the varieties of club-foot.

[To be continued.]

ABSTRACTS OF

CASES OF "YELLOW FEVER."

From a Medical Register preserved in the P. M. Officer's Office at St. Vincent, W. I.

By R. H. A. Hunter,
Staff-Surgeon.

No I.—John Pearce, æt. 23, admitted 8th April, 1839: complains of slight pain in his head and loins; tongue foul; bowels constipated.

9th.—Feels much better.

10th.—Discharged.

1st day, 12th.—Readmitted. Complains of pain in his head and loins. Skin hot and dry; tongue foul; stomach irritable; pulse 100, weak.

Vespere—Medicine rejected; delirious.

13th.—Stomach more retentive; skin hot and dry.

3rd day, 14th.—Vomits a dark brown fluid in large quantities.

15th.—Skin and eyes yellow.

16th.—Headache relieved, but still incoherent; stomach rejects everything. Refuses all nourishment.

17th.—Had a glass of brandy punch, but did not retain it. Pulse scarcely perceptible.

7th day, 18th.—Died at 1 A.M. No autopsy.

No II. 1st day.—J. Whatworth, æt. 27, admitted 22nd May, 1839. Severe febrile symptoms, with remarkable depression of spirits.

23rd.—Bowels not moved in the night, but freely by injection this morning. Six P.M., appears better.

3rd day, 24th.—Complete remission, but mind depressed. Tongue nearly clean.

25th.—Pulse feeble.

26th.—Pulse continues feeble, and mind depressed.

27th.—Skin yellow; mind prostrate; refuses wine, porter, or other nourishment. Tongue clean.

7th day, 28th.—Eyes of a deep yellow. Stupor, but took some wine in the night. Ten A.M., expired.

Autopsy, horis xviii. postea.—Anterior surface of a deep yellow: posteriorly remarkably livid. Thoracic viscera healthy. Much tumefaction of abdomen. Stomach externally of a natural colour, but much distended; internally of a dark red, and mucous membrane completely softened. Upper surface of liver, pale; under, black. Intestines externally livid, and much distended with flatus and fluid of a coffee colour. Mesenteric glands enlarged.

No. III. 1st day.—Thomas Brown, æt. 32, admitted 6 P.M., 1st June, 1839, with slight febrile symptoms, which soon after became much aggravated, with vomiting and purging. Skin hot and dry; tongue foul; pulse 84. (Had been taking both ipecacuan and antimony in small doses.)

2nd.—Tongue loaded at centre, but clean at tip and edges.

3rd.—Skin still rather hot and dry. Tongue loaded; pulse slow and soft.

4th day, 4th.—Complete remission. Skin tinged yellow; tongue preternaturally clean; mind prostrate, with intolerance of light and alarming debility.

Noon.—Skin of a dusky yellow colour, and debility extreme. Two P.M.—Vomited a small quantity of coffee-coloured fluid.

4th day, 3 P.M.—Slightly delirious, but takes medicine when pressed. Eight P.M., in a state of stupor, and at eleven died.

Autopsy (horis xv. postea).—Anterior surface of a dusky yellow hue: posterior dark and livid. Thoracic viscera healthy. Abdomen tumefied. Peritoneal surface of stomach and intestines of a natural colour or pale, but the contained coffee-coloured fluid rendered the whole dark mucous coat softened, and the muscular greatly injected. Convex surface of liver mottled; concave dark coloured. Substance softened, and gall-bladder empty. Spleen, as in all examined, small, and in appearance natural.

No IV. 1st day.—Henry Smith, æt. 23, admitted 17th June, 1839, from the huts in the immediate vicinity of the hospital, having attended his wife dangerously ill of yellow fever. Sent to hospital at five P.M., complaining of headache, with pale and anxious aspect. Skin tinged yellow. Tongue black in centre.

18th.—Slept none, but vomited a great deal in the night (Ipecac. gr. v. had been exhibited with other medicines. Six P.M.—Bowels moved by injection.

19th.—Great prostration, but tongue cleaning; urine scanty. Six P.M.—Pulse 72, fuller. Two gills of wine, &c.

20th.—Bowels moved four times; pulse natural.

21st.—Had a restless night, but appearance improved: pulse 72.

22nd.—Skin less yellow, and aspect improving.

10th day, 24th.—Gums tender.

26th.—Convalescent.

No. V. 1st day.—James M'Culloch, æt. 34, admitted 1st July, 1839. Headache; foul tongue; bowels slow.

2nd.—No sleep; skin hot; pulse 96.

3rd day, 3rd.—Black vomit. Skin yellow. All but hopeless.

4th.—Vomits merely from the action of the diaphragm.

5th.—No change for the better.

6th.—Pulse fluttering.

7th day, 7th.—Expired at four A.M.

Autopsy.—Surface anteriorly of a dusky yellow hue: posteriorly black. Body much swelled. From the mouth to the ileo-cæcal valve, many points of black vomit. Small intestines immensely distended with air.

No. VI. 1st day.—Thomas Goodchild,

æt. 22, admitted 24th June, 1839, with symptoms of fever.

4½ P.M.—Has vomited repeatedly a greenish fluid. Fever evidently of an aggravated character; bowels moved four times; pulse 96, very weak.

25th.—Slept a little: now rather delirious. Nine P.M.—pulse 110, and very weak.

26th.—Pulse 84, and stronger.

4th day, 27th.—One copious black alvine evacuation. 4½, asleep. 7 P.M. —Vomiting and epistaxis; delirious.

6th day, 29th.—Expired at noon.

Autopsy.—Skin yellow and mottled; under surface black. Body much swelled. Thoracic viscera healthy. Peritoneal covering of digestive organs natural. Mucous surface disorganized. Muscular coat very red. Contents, black fluid, chiefly blood. Liver of a mottled appearance, and softened. Gall-bladder collapsed; bladder thickened.

No. VII. 1st day.—J. Fellows, æt. 34, admitted 18th April, 1839, with pain in the loins and headache. Aspect wild: intellect weak. Tongue white and moist; bowels confined; pulse weak.

19th.—Bowels freely moved; tongue cleaner; appetite improved.

20th.—Still improving.

22nd.—Convalescent.

6th day, 23rd. — Instantaneously seized with delirium and black vomit; tongue dry.

Vesp.—Vomiting continues.

7th day, 24th.—Died at 1½ A.M.

Autopsy.—Stomach much distended with flatus: contained also about two quarts of black vomit. The villous coat was entirely destroyed, and in many parts appeared like flakes of pus. Large intestines healthy; surface of liver of a bright yellow: weighed four pounds. Lungs very vascular, and of a dark blue appearance.

No. VIII. 1st day.—William Scrivener, æt. 33, admitted 6 P.M., 23rd July, 1839. Rigors; skin hot; tongue covered with a yellow crust; nausea; vomiting; pulse 111, weak. Ipecac. gr. xx. 8 P.M.—Vomited a greenish fluid.

24th.—Bowels moved four times; no sleep; eyes suffused; skin hot; rigors; pulse 84, very feeble; vomited repeatedly. 5 P.M.—Better.

3rd day, 25th.—Four motions, still black: has slept a little, and tongue is cleaning at the edges. 9 P.M.—Aspect improved, and mind more energetic. Tongue cleaning; pulse 78, very feeble.

26th.—No vomiting, but mind depressed; slept badly.

27th.—Skin yellow; bowels moved four times.

6th day, 28th.—Says he is dying, and will therefore neither take drink nor medicine. 5 P.M.—Vomited a black fluid. Bowels moved once, and also inky.

29th.—Took a little wine occasionally, but has passed a restless night.

8th day, 30th.—Comatose; effused blood from mouth and intestines: expired at 2½ P.M. Body very offensive. No autopsy.

No IX. 1st day.—William Spong, æt. 30; admitted 1st July, 1839. Complains of headache: surface cold and clammy; tongue black in centre.

2d.—Slept well, but vomited a green fluid; tongue very foul; pulse calm.

3d day, 3d.—Skin hot; tongue cleaning; bowels moved several times, black, scanty, and passed without effort; delirious.

4th day, 4th.—Quite insensible; pulse natural! (so in the register;) vomited from fulness of the stomach, merely by the action of the diaphragm; tongue and teeth also covered with effused blood: takes wine and water.

5th.—Surface more yellow: passes his dejections in bed.

6th.—Calmer and more rational; has passed two large dejections in bed.

7th.—Dejections still passed in bed; tongue cleaning; takes his medicines.

8th day, 8th.—Comatose: expired at 8 P.M.

Autopsy.—The same appearances as in all the fatal cases during the epidemic: to wit, softening of the inner coat of the stomach and intestines, the peritoneal covering of the whole being perfectly natural. An inky fluid extended throughout the whole mucous surface.

No. X. 1st day.—Edward Lawder, æt. 33; admitted 27th July, 1839. Complaining of headache and general

pains, with prostration of strength: eyes suffused; tongue furred.

2d day, 28th.—Bowels acted freely; dejections black or inky, as also the ejections; skin yellow. 6 P.M.—Black vomit covering his mouth, chin, and neck, by the action of the diaphragm only.

3d day, 29th.—Expired at 7 A.M.

Autopsy.—Surface yellow anteriorly, posteriorly livid; lungs healthy, but gorged with blood; peritoneal covering of stomach and intestines healthy, but the redness of the subjacent coats visible; coats of stomach thickened; contents, a pint of inky fluid; liver of a great size, and of a gamboge colour both externally and internally; kidneys gorged with blood; urinary bladder empty and contracted.

No. XI. 1st day.—John Laurie, æt. 18; admitted 24th June, 1839, with marked febrile symptoms: tongue foul. 5 P.M.—Skin hot; pulse 84.

2d day, 25th.—Tongue much loaded; pulse 80, weak. 4 P.M.—Vomited a dark fluid mixed with blood. 9 P.M.—Appears worse: vomited again a dark fluid, with more blood than before.

26th.—A little better; tongue cleaner; pulse 96. 9 P.M.—Black vomit mixed with blood.

27th.—Very low; comatose.

28th.—Vomited three times, and bowels also moved three times; stupor.

6th day, 29th.—Vomiting increased; pulse 84, feeble; sinking: expired at 6 P.M.

Autopsy.—Body much swelled; under surface black; inner coat of stomach and intestines completely disorganised; a black fluid mixed with blood extended throughout the whole canal: the body too putrid to examine further.

No XII. 1st day.—Henry Russell, æt. 36; admitted 3d July, 1139. Taken ill yesterday when mangling clothes: skin of a scarlet colour; great distress; tongue loaded; black vomit; pulse 90, feeble.

2d day, 4th.—Vomited repeatedly during the night.

5th.—All action has subsided, and he feels well, yet is in a hopeless state.

4th day, 6th.—Comatose: expired at 10 P.M.

Autopsy.—Surface anteriorly intensely yellow, posteriorly black; mucous coat of stomach a soft pulp; contents black, mixed with blood.

No. XIII. 1st day.—Thomas Overington, æt. 35; admitted July 21st, 1839, with marked symptoms of the epidemic: headache, foul tongue, and great prostration of strength; vomited. 5 P.M.—Intense nausea and great uneasiness.

22d.—No sleep.

3d day, 23d.—Slept little; very weak; bowels moved three times.

Vespere.—Black vomit; skin soft.

24th.—Black vomit; sinking pulse.

25th.—Pulseless; comatose.

6th day, 26th.—Expired at 11 A.M. No dissection.

N.B.—The fever prevailed at this time in garrison, from April to September. The strength was 330 Europeans, of whom 80 died; exclusive of officers 18, of whom 5 died, and of women and children.

R. H. A. HUNTER.

St. Vincent, March 1849.

These cases, gleaned from the medical records at St. Vincent, during a fourteen months' residence on that island as principal medical officer, though imperfect, are nevertheless valuable I think, inasmuch as they will show to the inexperienced in tropical diseases the marked difference between the pestilential yellow fever and the ordinary yellow or bilious remittent of either eastern or western climes, with which there is still a disposition among the superficial to confound it. Neither do the progress, termination, ratio of mortality, nor post-mortem appearances, in the least correspond: in fact, the pestilential yellow fever is evidently not a remittent at all; the subsidence apparently coincident with the effusion of the black vomit into the intestinal canal having no more the character of a remission, though often loosely termed so, as in the cases related above, than the subsidence of the fever on the eruption of small-pox. To me it seems doubtful whether the fever is essential; at all events its character is not a test of the virulence of the disease, for even after the mildest febrile stage we may have the most malignant choleric or black vomit; nor does its

degree either hasten or retard, for, of whatever intensity, the duration is definite; whilst again, on the other hand, the second stage bears a striking resemblance to cholera: in both there is copious vomiting, almost without effort; in the one of black matter, in the other of white; and coincident with these, collapse and sinking, though different in kind, probably from some difference in the nature of the poisons; and after death the presence of these matters in the intestinal canal are the only invariable morbid appearances. The following table, however, will show more clearly what is meant: to wit, the very regular appearance of the black vomit from the second to the fourth day; and the comparative length of the second stage as incompatible with the views of collapse from inordinate action or putrescency as the cause.

Table, exhibiting, in 18 *Fatal Cases of Yellow Fever, the day of appearance of Black Vomit, and the day of Death :—*

Day of the Fever.	Appearance of Black Vomit.	Day of Death.
1	—	—
2	6	—
3	7	2
4	3	4
5	—	2
6	1	4
7	—	3
8	1*	2
9	—	—
10	—	—
11	—	1*
Total	18	18

OBITUARY.

On the 18th inst., at Camberwell, of Asiatic cholera, Robert Young, Esq., M.D., aged 47, third son of the late Vice-Admiral William Young.

At Portsmouth, on Wednesday, the 18th inst., after a few days' illness, W. Birrill, Esq., M.D., Surgeon to the Forces, H.P., aged 56.

* This was the fourth day from what is called a relapse, and death on seventh day.

MEDICAL GAZETTE.

FRIDAY, JULY 27, 1849.

In a pamphlet which has lately reached us,* Dr. Parkes has entered into a very fair and candid analysis of the earliest cases of cholera which occurred in London during the present epidemic, in order, if possible, to throw light upon that greatly disputed question, the alleged propagation of the disease by contagion. This inquiry is of the greater interest, because it was made at the request of the General Board of Health, and it has been conducted without prejudice by one fully competent to the task.

Dr. Parkes sets out with the proposition that the *earliest* cases which occur in a locality, are better adapted than any others to aid us in solving the question of their dependence on contagious propagation. Thus, he says—

"It is universally and truly considered, that the inquiry into the origin of the first cases of an epidemic disease in any locality, is a necessary preliminary to all other inquiries respecting the origin of future cases. At that period of the epidemic, the question is reduced into as simple elements as we can ever hope to find it in; and the influence of essential antecedents is less obscured than at a later date, by the presence of accidental and unnecessary circumstances."

Again, in another part of his pamphlet he observes—

"The strict contagionist theory has always considered that strong evidence in its favour was to be obtained from a study of the early cases. It claims to be always able to point out the channel of introduction, and to trace the first

* An inquiry into the Bearing of the Earliest Cases of Cholera which occurred in London during the present epidemic, on the strict theory of Contagion. By E. A. Parkes, M.D., Physician to University College Hospital, &c.: London. 1849.

steps of the malady ; afterwards, when the sick have become numerous, it considers that persons may be exposed to emanations, and may sicken, without being aware that they have been so exposed. At this late period, therefore, the proofs of contact or proximity cannot be obtained ; and negative evidence loses its value."

We do not think that this view can be conceded to the extent to which such a mode of reasoning would lead. At any rate, if we try the doctrine by the facts ascertained with regard to other diseases, we shall find in placing absolute reliance upon it that we may be continually misled. Scarlet fever, Small-pox, or Typhus, occasionally appears in a locality without our being able to trace the disease to direct importation. Several cases may occur without any proof of communication : and yet in the subsequent cases this proof may be easily obtained. We must not, therefore, rest the question of a contagious origin on the facts connected with the *earliest* cases of an epidemic disease: there may be a total absence of proof of importation, and yet the most cautious reasoner will not hesitate to admit, that in the *later* cases, its diffusion by intercourse rests upon undeniable evidence.

Dr. Parkes arranges all the opinions of the day under two separate creeds—that of the *strict*, and that of the *modified* contagious theory.

"The *strict contagious theory* I take to be that which refers epidemic diseases to the action of specific poisons, which (it alleges) multiply themselves only during their passage through the animal body. All other reputed modes of increase, this doctrine considers to be doubtful or untrue; and it looks upon the external circumstances which surround the animal frame as influencing the efficient cause or poison of the epidemic, only so far as they render the body a more or less fit recipient for its action. As it concludes that the body is the only source from which a fresh supply of the specific agent can be evolved, it deems it necessary that the person, to be infected, should come within the influence of the particles of poison (imparted by contact, diffused in the air, or adhering to clothes) which have been emitted from the breath, surface of body, or excretions of an individual already suffering from the disease, or from the corpse of one who has already died of it."

Modern researches have shown that the strict contagious theory, as it is here described, cannot be maintained. Contagion varies in degree, and no two diseases are strictly alike in their power or intensity of propagation.

"The tendency, indeed, of all these observations has been to show—1st, that the effect of the human body, as a single and uniform element in producing changes in the morbid poisons, and in thereby assisting their diffusion, is by no means so great in these instances as it is in the cases of small-pox and scarlatina ; 2nd, that it is most probable that these poisons are in the first instance derived from sources more or less frequently propagated and multiplied by means which are also foreign and extrinsic to it; and 3rd, that the degree in which they multiply in the human body, and are in this way propagated, varies in the case of each particular poison, and according also to its alliance with other poisons, or to the state of the system through which it passes."

The party described by Dr. Parkes as including the modified contagionists, appears to us not to have its views very clearly defined. We should call it *non*-contagionist, and take as its type the Board of Works. Its medical representatives are Mr. Grainger and Dr. Southwood Smith. This party

"In seeking to determine the mode of non-contagious propagation, considers with the greatest attention the media external to the human body, which surround the particles of any special poison. It regards the humidity and temperature of the air, its purity, its electrical condition, the weight of its column, and the movement of its masses. It questions what may be the exhalations from the soil, from decaying substances,

from all the various natural or artificial peculiarities which vary the surface of the ground. In all these circumstances it sees a twofold action—an action upon a virus introduced among them—an action upon a human frame submitted to them. It seeks to determine what relative assemblage of these conditions is most favourable to the spread of a poison; it believes that, under its favouring conditions, some poisons introduced *ab externo* may augment by reproducing themselves. It goes even farther than this; in certain cases, it sees, in an intense concentration of these sevaral circumstances, a development *de novo* of that specific poison which is proper to that particular assemblage of conditions. On the banks of the Ganges it witnesses the cholera-poison spring into existence; in the swamps of Batavia, the malignant intermittent passing into remittent; on the river marshes of Western Africa, the deadly remittent, from which springs the epidemic yellow fever; among the effluvia emitted from our great cities, or among the miserable hovels of a starving nation, the fever-poisons of this country; among the Fellahs of Egypt, with their peculiar rites of sepulture, and with their pernicious customs of social life, the poison of bubo-plague. It attaches, also, much importance to the consideration of the occasional, and even periodical, augmentations in the vigour of the specific poisons, believing that these are partly dependent on influences exerted on these poisons by "epidemic constitutions" of the atmosphere."

As we understand the notifications of the Board of Health, the communication of the poison of cholera from one person to another, either from the living or dead body, is a mere delusion,—a doctrine devoid of all proof, and inadmissible in the present state of science. Persons entertaining such views cannot be described as modified contagionists in the common acceptation of the terms: they are in truth non-contagionists, for according to them the disease is not under any circumstances propagated by human intercourse.

After adverting to some early instances of alleged cholera, reported in this and other journals, as having occurred in and around the metropolis during the last autum, the writer gives an impartial analysis of twenty-eight of the first well-ascertained cases reported to the Board of Health during a period of twelve days, *i. e.* from the 28th September to 12th October, 1848. These occurred in ten different localities, situated not in proximity but in various and remote divisions of this immense metropolis. The general result of Dr. Parkes's inquiries was, that the inhabitants of these localities did not appear to have held any intercourse with each other; and in no single instance could it be discovered that the first person sick in any particular locality had been in contact or proximity with another individual previously diseased, in another locality. Hence it is inferred by the writer that the *strict* contagious theory, namely, "that which supposes that an individual derives the epidemic disease from being in contact or proximity with a person already sick of the same malady, is not capable of explaining the mode of origin of the earliest cases of cholera in London." We elsewhere* insert a letter from a correspondent, who has paid considerable attention to the subject of contagion, which tends to show that this inference is somewhat overstrained; and that the cases collected by Dr. Parkes are less adverse to the theory of the diffusion of the disease by contagion than he is inclined to believe. Let us, however, concede the point, and admit that we are unable in this instance to account for the outbreak of the disease in London, by reference to importation or to human intercourse—Is that admission to be taken as conclusive against the spread of cholera by contagion? We think not, for two reasons—1st, because it would be

* Page 171.

equally conclusive in many instances against the well-known contagious character of small-pox, scarlet fever, or typhus, when occurring in what is called a sporadic form; and 2d, because there is strong evidence of contagion in reference to the early cases of cholera occurring in other localities. We shall reserve our remarks upon these points for another occasion.

The deaths from cholera in the metropolis are still on the increase, showing that this terrible scourge has not even yet attained its maximum intensity. The total number of deaths above the summer average is 733; and among these, 678 are assigned to cholera! The rate of increase is, therefore, as follows:—

Week ending			
June 30.	July 7.	July 14.	July 21.
124	152	339	678

Of the 678 deaths, there were 355 males and 323 females; and these took place at the following ages:—

Under 15.	Between 15 & 60.	Above 60.
223	363	92

From these facts, it will be perceived that the deaths from this disease have, during the last two weeks, increased in a duplicate ratio.

It is not a little remarkable that the fatal attacks have been hitherto so disproportionably great on the south side of the river Thames. In the northern division of the metropolis, including Marylebone, St. Pancras, Islington, Hackney and Hampstead, there were only 7 deaths. On the south side of the river, they amounted to 443; and of these, 106 occurred in the parish of Lambeth! We publish the following return from the Board of Health, as containing the latest and most authentic intelligence on the subject, although our belief is that the number of attacks cannot be correctly ascertained:—

Return of Cholera Cases from the 13th to the 24th days of July, both inclusive.

—	Attacks.	Deaths.
In London and vicinity	1,839	847
In England and Wales	3,566	1,504
In Scotland	109	48
. .	5,514	2,399

Return of Cholera Cases, July 25.

—	Attacks.	Deaths.
In London and vicinity	311	64
In the country	270	101
In Scotland	19	12
.	600	177

The disease has appeared in the garrison at the Tower, but only two fatal cases are as yet recorded.

Reviews.

1. *Two Lectures on Cholera and Intermittent Fever.* By Charles W. Bell, M.D., K.L.S., Physician to the Manchester Royal Infirmary, late Physician to H. M. Embassy in Persia, &c. &c. Pamphlet, pp. 101. London: Churchill. Manchester: Simms and Dinham. 1849.
2. *An Inquiry into the actual state of our knowledge of Cholera, with practical directions regarding its precaution and treatment.* By Alexander Knox, M.D., Surgeon to the Strangford Dispensary, &c. &c. Small 8vo. pp. 266. Dublin: M'Glashan. London: W. S. Orr and Co. Belfast: Lamont. 1849.
3. *Directions for the management of Cholera in the absence of medical advice.* By Henry M'Cormac, M.D. Pamphlet, pp. 12. Belfast. 1848.
4. *The Contagion of Asiatic Cholera, deduced from its recent progress, its early history, and its pathological correlations.* By Edward Oke Spooner, Esq., M.R.C.S. &c. &c. Pamphlet, pp. 51. London: Churchill. Worcester: Deighton. 1849.
5. *Report of the Epidemic Cholera, as it has appeared in the territories sub-*

ject to the Presidency of Fort St. George. Drawn up by order of Government, under the superintendence of the Medical Board. By WILLIAM SCOTT, Surgeon and Secretary to the Board. Abridged from the original report printed at Madras in 1824, with introductory remarks by the author. 8vo. pp. 212. Edinburgh: Blackwood. London: Murray. 1849.

6. *Cholera Gleanings, a family handbook, enabling readers of all classes to judge for themselves of the great error into which governments were unfortunately led by men looked upon as infallible guides, who very strenuously maintained it to be a disease during which "The living shall fly from the sick they should cherish."* By Dr. J. GILKREST, Inspector General of Army Hospitals, and Corresponding member of the Paris National Academy of Medicine. Pamphlet, pp. 86. Gibraltar. 1848.

1. DR. BELL'S lectures were delivered to the members of the medical profession in Manchester, in October and November of last year. The substance of them had previously appeared in this journal (New Series, Vol. v., p. 797; Vol. vi., p. 8 and 52). Their chief object is to prove the identity which the author believes to exist between cholera and ague. This question has been recently discussed in our analysis of Dr. Billing's pamphlet, at p. 70 of the last volume, where we showed that although in certain features a strong resemblance holds between the two diseases, yet that a difference sufficiently broad exists in the most important and distinctive characteristics of each, to establish their separate and independent nature.

To our own remarks we may add the statement of Dr. Mackenzie, in a paper recently published in this journal, that before the appearance of cholera in Archangel, ague, which had been epidemic, disappeared, a fact sufficient of itself to disprove the alleged identity. Dr. Bell's lectures may, however, be consulted with advantage, as containing many pathological facts and inferences in relation both to cholera and ague.

2. Dr. Knox's work is, we believe, as the author states, the only work of its kind, and is certainly complete in itself as a concise compendium of the various opinions which have been advanced on cholera. It constitutes a complete body of reference and store of facts on all points of the disease; and although we differ from the author in his conclusion in reference to the question of the contagiousness of cholera, we esteem his book as useful in the highest degree, both from its purpose and from the fidelity with which it is executed. It has been compiled with very great judgment, care, and industry. We trust its reception by the profession will be such as to lead the author to record in the same manner the facts which may have accumulated between its date, the end of 1848, and the appearance of another edition of this work.

3. Dr. M'Cormac's pamphlet consists of short, plain, and judicious advice to the public, which we doubt not has been found of great service in mitigating the severity of the visitation in the densely-populated town of Belfast. Where the mortality from the cholera has been so high as in Belfast, and where the poor are so densely crowded together, we look upon the dissemination of the following statement as a matter of duty:—"Without going into particulars, I have witnessed so many instances of the apparent transmission of cholera from person to person, that I cannot entertain a doubt as to its communicability. I have known it again and again to ensue after contact, *and of those daily exposed a much greater number sickened than of persons otherwise circumstanced.*"* Dr. M'Cormac cites numerous instances of infection, which, except by a bold denial of tne facts, cannot be controverted. We have often expressed an opinion, and cited facts which establish the occasional contagiousness or communicability of cholera. We may also refer our readers to Dr. Peacock's statements with reference to the conveyance of cholera to the Free Hospital by the children from Tooting, which will be found at page 512 of the preceding volume of this journal; and to our leading article at page 114. That the spread of cholera is greatly favoured by over-crowding (*ochlesis*) is a fact which cannot be denied, and which admits of only one explanation. Dr. M'Cormac's caution is therefore well

* The italics are our own.

timed. Such safe and common-sense observations as are to be found in his little pamphlet would have been more becoming the manifestos of the Board of "Works," than the hasty and ill-digested notices which were thence issued.

4. Numerous as have been the publications on cholera which have come under our notice, and satiated as we almost are with their perusal, we confess that we have not met with so concise and judicious a condensation of the question of contagion or non-contagion, as is presented to us in Mr. Spooner's pamphlet. We know of no more complete refutation of the erroneous statements published in the notifications of the *Board of Works*. The various pathological theories that have been invented to assimilate cholera to other diseases, in order to prove its non-contagious propagation, are dispersed to the wind before the author's logic. At the same time plain undeniable facts are adduced, which establish beyond dispute the contagiousness of the disease. We quote one from among many similar *facts*.

"A boatman on the canal, with his wife and family, returned a few weeks ago from London, where cholera was of frequent occurrence on the river. They were seized with illness on the way. One child died on the passage, and they were all very ill when they arrived at the village of Offchurch. They were put into a room occupied by other persons. No suspicion of cholera existed. After the death of the woman and two children, it was suspected that they had been poisoned, and an inquest was held. The truth was now manifest, and eight other cases now followed, six of which proved fatal. Within the last fortnight four fresh cases have occured. Now, Offchurch is a village in the very centre of England: no case of cholera had happened in its neighbourhood until the fatal boat from London introduced it." (p. 36.)

Such an instance, and it is not singular, well merits the author's epithets of "glaring and decisive," and it is "little short of the experimentum crucis of Lord Bacon" (p. 36).

If we had not already arrived at the same conclusions, expressed on many occasions in the pages of this journal, the contents of Mr. Spooner's pamphlet would have sufficed to determine our opinion upon this much disputed question.

5. The reports which Mr. Scott has judiciously abridged within a convenient compass, were originally published in the year 1824 as a folio volume of about two hundred pages. This epitome of the valuable facts therein contained, forms one of the most instructive volumes on the subject of cholera, that has come under our notice. Unfettered by theoretical conceptions, it deals with plain facts, collected with great labour and research from a most extensive field of observation.

In his introductory remarks the author sets before us the conclusions of this comprehensive report, combined with his own large experience of the disease. In relation to the treatment of cholera, he states that the practice of bloodletting has not sustained the confidence at first entertained of this measure; that the use of calomel, which was never entirely abandoned, continues to be resorted to, although commonly prescribed in smaller doses than at first; and that opium still stands its ground as a remedy that cannot be dispensed with. With regard also to stimulants and other remedial measures, the author in like manner confirms the views we have ourselves expressed on former occasions.

We may notice here that the author does not corroborate the statement so dogmatically asserted by the non-contagionists, that the whole body of Indian practitioners regard cholera as incapable of communication from one individual to another. The direct contrary is now established by the publication of the facts and reasonings contained in Mr. Scott's work. These our readers will find at pp. xi.-xxxi. introductory remarks, and p. 97-188, section—Contagion or infection. It will be evident, from the accuracy and caution which mark the examination of this disputed question by the author, that a little more scepticism would have been fitting in those who, from the most cursory inquiry, must have seen "that many of the principal circumstances which have been noticed in the history of cholera are left wholly unexplained by either doctrine," and that "amidst such a variety of conflicting opinions and contradictory appearances, it seems fruitless, if not presumptuous, to offer a decided judgment,"

at least as to the supposed invariable diffusion of cholera by atmospheric or telluric agencies. The question is of the greatest moment—to be solved only by facts: in this point of view we regard the volume before us as a valuable contribution to the evidence daily accumulating, and tending to the determination of all dispute. We have not opportunity to place before our readers more than an enumeration of the sections under which the author sums up the opinions and experience comprised in the reports. They are as follows:—Cholera at Arcol in 1787. Notices in Hindoo writings—by Bontius, 1629; by Dr. Paisley, 1774; by Sonneral, 1774-81. In Mauritius, 1775 and 1819. At Ganjam, 1781; by Curtes, 1782; by Girdlestone, 1782. At Vellore, 1787, by Dr. James Johnson. At various times since 1787—by Wyllie, 1814; Cruikshanks, 1814. Nosological remarks; Hindoo names; generic names; specific names; description of cholera; varieties in general features; particular symptoms; state of blood; termination; diagnosis; morbid anatomy; causes; contagion or infection; prognosis; treatment. To these is added a narrative of the progress of the epidemic cholera in the peninsula of India, drawn up from the official records of the Medical Board, and illustrated by a map showing the principal places visited by the disease since 1818-19, and accompanied by meteorological and climatorial observations. The entire volume is, as we have already stated, full of interest and instruction, and therefore we commend it to the close study of our readers.

6. Dr. Gilkrest's pamphlet is a work of supererogation, its object being to condemn the conclusions of the London Board of Health in 1832—viz. that cholera is a contagious disease. To this end the author has selected from the reports of the cholera in London and different parts of the world, all the statements that favour his own views. He is at the same time somewhat angry that the same Board did not at once receive and act upon his unqualified assertion, that cholera is never contagious. No ground of complaint on this score exists against the present *Board of Works*, it having unhesitatingly espoused the opposite opinions, and pronounced them infallible.

We do not find any fresh information for our medical readers in the fourteen pages out of eighty-six which the author gives to the history, causes, and treatment of cholera; neither do we think that the general reader will find in this pamphlet the information which we suppose, from its title, the author imagines they will discover.

On Healthy and Diseased Structure, and the true Principles of Treatment for the Cure of Disease, especially Consumption and Scrofula; founded on Microscopical Analysis. By William Addison, M.D. F.R.S. 8vo. pp. 320. London: Churchill. 1849.

In the application of microscopical discovery to the scientific illustration, and inductive reasoning on the phenomena of disease, which Dr. Addison's treatise brings before us, the author has in view a higher aim than the mere recital of the histological elements of tubercle, or the formation of a crude hypothesis to explain every event that occurs in the phthisical or strumous constitution.

The following extract will present to our readers the design of the author, and the scope of the conclusions he proposes to draw:—

"We propose in the following pages—after briefly relating the phenomena of vegetable structure—to demonstrate the law of development of the textures of the human structure, to show that they all originate from the metamorphosis of cell-organisms in the embryo, are nourished by the metamorphosis of cell-organisms in the blood, and are displaced, interrupted, or go back again to cell-organisms, in scrofulous disease, phthisis, and ulceration. In proving the last of these events in the serous and fibrous textures, we demonstrate the analogies between scrofulous disease and those phenomena of vegetable structure which are embraced in the term retrograde metamorphosis. We do not attempt to explain the epigenesis of cells, or to assign a reason why some are red, in blood; others white, in mucus, saliva, and pus; why some contain brain matter, others milk or bile; some the elements of one secretion, and others of another. We simply observe the phenomena of growth, nutrition, and disease, and prove by microscopical demonstration that in consumption and scrofulous disease, cell-organisms, characteristic of the embryo structure and of blood, reappear amongst,

and supplant the elements characteristic of the healthy adult texture." (p. 9.)

The work is divided into two parts: the first of these includes practical physiology, practical pathology, and practical psychology; the second part embraces semeiology, etiology, therapeutics, and treatment.

The first part is preceded by a brief outline of the phenomena of vegetable life.

In Part I. Chapter I., on Practical Physiology, we find a short general statement of the development of the embryo from the primitive cell-organisms; then a review of the relations of the blood as a corpuscular fluid from which are furnished the cell-organisms constituting the various fluids and secretions of the body in health, and in the reparation of disease and injuries. "These cell-organisms clothe the walls of all secreting vessels, and it is in their interior that the metamorphoses constituting true secretions take place." (p. 29.)

The author next treats of the nature and structure of the blood-vessels, and of the corpuscular or cell relationships of the minutest or primitive capillaries; adding a sketch of the structure of the mucous and serous membranes, and of the parenchyma of the liver, brain, and lungs.

The second section of the first chapter presents us with an outline of cell phenomena in the process of nutrition; showing the reciprocal action between the blood and the texture, as seen in the microscopical examination of the phenomena of the circulation of the blood in its normal state, and in exalted states of nutrition called inflammation and irritation.

The second chapter, on Practical Pathology, contains two sections:—1. Scrofula; 2. Inflammation.

The first section treats of the subject of scrofulous diathesis, the pathological anatomy of tubercular consumption, and analogies between the retrograde metamorphosis of vegetable structure, and pulmonary consumption. The following quotation contains the author's views in reference to this portion of the subject:—

"Several other post-mortem examinations of a similar kind, of which I have notes, might here be related, but this is deemed unnecessary, as they all establish the same facts, the growth of corpuscular granulations or villi in the serous and fibrous textures, as the primary change;—the transformation of these granulations into opake tubercles or tuberculous matter, as the next, and the retrogradation of the natural textures surrounding the tubercles as the essential phenomenon of consumption, the indispensable anatomical change of phthisis.

"Hence, then, these microscopical researches not only corroborate the truth of the descriptions given by Shroëder van der Kolk, Guillot, and Bennett, but they appear to justify conclusions not stated by either of these anatomists, and to show that the great vascular transformation, and villous growths they speak of, are the features or accompaniments of a great metamorphosis of the pulmonary parenchyma, in which the simple fibrous, non-secreting respiratory capillaries and normal texture of the lung assume an early corpuscular or embryonic type, with an occlusion of the air-spaces. The phenomenon being analogous to the retrograde metamorphosis of vegetable structures—inasmuch as the slightly coherent cell or corpuscular elements of the diseased structures are a much nearer approach to the elements of the embryo and of blood than those which are natural. Just as in the retrograde metamorphosis, the cells of the degraded form—the abnormal leaf—are a much nearer approach to the parenchymatous cells of the true leaf than are those of the natural texture of the petal, stamen, or pistil." (p. 63-64.)

The second section, treating of Inflammation, regards this process as one of increased nutrition, adopting and confirming the views of Dr. J. H. Bennett, and pointing out the analogy between the phenomena attending the development of scrofula, and those of growth, nutrition, and inflammation. Thus—

"Growth expresses the evolution or unfolding of special textures from the embryonic forms in the blood. Inflammation is an exaggerated nutrition; and an inflammatory product is its result, whether bone in a fracture, or granulations in a burn. Scrofulous diseases express the retrogradation of a special texture to some earlier cell-type; and consumption is the retrogradation of the pulmonary or respiratory parenchyma." (p. 79.)

The third chapter is devoted to what the author terms Practical Psychology, which regards Man as "a subject for study and contemplation in two distinct points of view: first, as an individual possessing a conscious unity—a

personality insusceptible of division or analysis; secondly, as a living being composed of parts, and subject to the laws of matter." (p. 85.)

Avoiding a strictly metaphysical disquisition, Dr. Addison here investigates the mutual relations and control exerted between the will and the bodily structure; or, to use the author's own words—

"Since all living structures are built up by the agency of cells, the most scientific classification of general anatomy would be one founded on the metamorphosis of cells, were it not that in the history of animals two distinct series of phenomena—the psychological and the material—have to be considered." (p. 89.)

These series of phenomena in reference to the doctrines of Causes, which the author briefly reviews, are thus represented, taking the following divisions: *a* as the sign of the cause or power upon which the properties of inorganic matter depend; *b* the sign of the morphological force—the organic vital power of vegetables; *c* the sign of the power which springs from the sensual perception; *d* the symbol of the power embracing thought, mind, moral sentiments—

"1st Class.—Inorganic.—a.
2d Class.—Vegetables.—$a + b$.
3d Class.—Animals.—$a + b + c$.
4th Class.—Man.—$a + b + c + d$."
(p. 93.)

We have quoted this portion of the work not merely for the sake of the ingenuity with which the formula places before the mind's eye the phenomena involved in human existence, but because these remarks have a direct and immediate bearing upon the treatment of disease, as will be seen by reference to Dr. Addison's observations on the phenomena of hysteria, and the influence of mental emotion in the causation and treatment of disease, and the preservation of health.

The Second Part of Dr. Addison's work treats of the symptoms, causes, therapeutics, and treatment of consumption.

The first chapter treats of Semeiology, and enters at some length into the normal and morbid anatomy, as well as physiology, of the air-tubes and cells, and the consideration of the physical signs resulting from either of these conditions: these are illustrated by several instructive and interesting cases, "embracing a general outline of the symptoms observed or complained of by those affected with consumption,—pourtraying the constitutional nature of the malady, the wide extent of its sympathies, together with its anatomical and other relations." (p. 180.)

Under the head of Etiology, the author endeavours to impress upon his reader's attention the important fact that the disease is one essentially of a constitutional nature, that the presence of tubercles in the lungs does not alone constitute consumption, since these may exist for many years, even for a whole life, and not give rise to the symptoms of consumption. Many statistical facts relative to the mortality at different ages are adduced to enforce the importance of ascertaining the occurrence and nature of disease or injury to the constitution, or any important organ, during the preceding years of the patient's life.

On the subject of Therapeutics and Cure, we cannot do better than place before our readers the following extracts, which not only exhibit Dr. Addison's judicious opinion and advice, but embody the truth at which every candid and unprejudiced observer of the disease must have arrived.

"No prominent or commanding success has hitherto attended any of the reputed remedies for consumption; and microscopical anatomy, like a beacon, warns us not to rest our hopes of security upon the best devised methods,—when granulations, tubercles, and cavities, inflammation and scrofula co-existing, have rendered semeiology and diagnosis easy, by confounding all natural distinctions of stracture. On the contrary, it admonishes us to look for more success, by narrowly watching the period of recovery and reputed cure in the ordinary maladies of infancy, childhood, and youth; and judiciously carrying out a plan of alterative treatment in what is popularly termed "a delicate state," when semeiology and diagnosis are difficult. If *external conditions* only are the antecedents of this state, therapeutics will be easy, because hygienic alterations without medicine are curative; the patient freely exposed to light and air, with plenty of food and exercise, a happy mind and no cares, gets well of himself; but where *inherent resources* are prominently in fault, or where hygienic alterations and simple treatment do not produce the desired salutary effect, the life of the patient depends

upon the specific influence of some active medicinal or alterative agent." (p. 269.)

"In life we recognise physiologically three normal states—structural, emotional, and mental; pathologically, three abnormal conditions—organic disease, hysteria, and insanity; therefore therapeutically three methods of treatment—medicinal or dietetic, educational, and moral. A new physiology arises with age in the person, and new pathological conditions and symptoms with age in the disease. In infancy, fretfulness and irritability,—in youth, temper and emotions,—and in older persons, habits, opinions, and occupation, must be therapeutically regarded as well as the structural disease." (p. 271.)

"Consumption, lastly, is a retrogradation of the respiratory parenchyma, the lung; and it involves—to use the conventional terms of medical language—phenomena of pneumonia, pleurisy, bronchitis, and ulceration: it derives its most prominent characteristic or specific character from the numerous and limited areas it invades, and the failure of absorption when the energy of growth has ceased; its phases, symptoms, and progress, are influenced by the inherent idiosyncrasies of age, temperament, and constitution; it may be restrained, cured, or accelerated by climate, diet, medicine, air, and situation, and also by reciprocal actions between the blood and texture elsewhere in the body. But the great points upon which attention must be concentrated are—1st, the primary corpuscular and protoplasmatous growth—the granulation; 2d, the want of absorption when that growth has ceased, which gives permanence to tubercles; and, 3d, the vascular transformations and renewed growth, which arising in the natural textures surrounding tubercles, is confirmed consumption.

"Such being the manifold conditions, coincidences, and antecedents demanding consideration, it necessarily follows that consumption is a malady admitting and requiring various methods of therapeutical treatment. But this is a fact already established by experience; therefore, then, we have the more confidence in the truth of our deductions, and are the more prepared to follow out the consequences of the general law in respect of cure, in hitherto untried ways, and in cases, too, where, before these investigations, it may have seemed improbable that the idea of scrofulous action ought to influence our proceedings." (p. 319-20.)

Conscious that we have scarcely done justice to the talents and industry displayed in this work, we do not doubt that those best qualified to judge of its merits will give it the high rank in the literature of our profession which it so richly deserves.

Practical Remarks on the use of the Speculum in the Treatment of Diseases of Females. By THOMAS R. MITCHELL, M.D., &c. Small 8vo. pp. 83. Dublin: Fannin and Co. London: Longmans. Edinburgh: Maclachlan and Stewart. 1849.

DR. MITCHELL's treatise will prove of service to those who, not being familiar with the use of the speculum vaginæ, are disposed to make trial of this instrument in aid of the diagnosis and treatment of uterine or vaginal disease. The author points out the forms of disease in the investigation of which the speculum has been most frequently employed, and gives instructions as to its mode of use. Dr. Mitchell conjoins with these, some cases and observations on several common, and some of the more rare, female maladies, *e. g.* pruritus of the genitals, prolapsus uteri, leucorrhœa, vascular tumor of the urethra, &c. While we admit the utility of the speculum in many cases, we cannot but deprecate the injudicious commendations bestowed upon it by many of its advocates. We do not think that it is either advisable or admissible under any circumstances in the virgin state.

If operative interference be regarded, as hitherto, as a proof of the defective state of medicine, then we are justified in looking upon the numerous ingenious contrivances daily announced for the assistance of uterine investigations, as proof that this department is lamentably defective, or that these instruments will prove to be entirely unnecessary—perhaps injurious. It is quite possible that disease may be excited, as well as discovered, by the rather violent operative proceedings at present so much in fashion.

Portraits of Diseases of the Scalp; with the safest and most efficient modes of treatment. By W. C. DENDY, Senior Surgeon to the Royal Infirmary for Children, &c. Part II. London: Highley. 1849.

THE first part of this work was noticed in a recent number.* The second and last part contains illustrations of baldness, *Area Calvosa, Annulus papillosus, Crustula laminosa, Crustula furfurosa.* The remarks which we made on the former part apply to this. The illustrations are of interest, as they are

* MEDICAL GAZETTE, June 22, page 1093.

the work of the author himself; and it is not often that we find a medical practitioner who can freely handle the pencil.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

June 26th, 1849.

Dr. Addison, President.

A Case of Hemiplegia, associated with great Hypertrophy of the Heart, and terminating by Rupture of the Aorta, producing Dissecting Aneurism. By J. R. Bennett, Assistant-Physician to St. Thomas's Hospital. [Communicated by F. Le Gros Clarke, Esq.]

A shoemaker, aged 52, was admitted into St. Thomas's Hospital, under Dr. Bennett, on Feb. 27, 1849. His habits had been temperate, and previous health good, till within five or six months, during which time he had suffered from palpitations of the heart, vertigo, and uneasiness of the head. Fourteen days before his admission he had an attack of hemiplegia: on his entrance into the hospital he was still hemiplegic, and on examination there was evidence of a greatly enlarged heart, but of no obstruction to the circulation, either pulmonic or systemic; there was a slight diastolic bruit heard just below and to the right of the left nipple, and there only. His general condition varied from time to time till April 21, when the paralytic symptoms became suddenly aggravated. On the 24th he suddenly uttered a cry, indicated that he had a pain in the chest, and died in three or four minutes. Post-mortem examination revealed an apoplectic clot in the left corpus striatum, surrounded by much softening of the brain, and a similar clot in the centre of the pons Varolii, surrounded by white softening. All the arteries at the base of the brain were loaded with atheromatous deposits. In the left pleural cavity there were between three and four pints of coagulated blood, which had escaped through a laceration in the costal pleura; and blood was extravasated between the pleura, in the neighbourhood of this opening, and into the posterior mediastinum. On laying open the aorta *in situ* there was found a transverse rupture, three-quarters of an inch in length, immediately beneath the origin of the subclavian artery. Above the point of rupture the arterial coats were not separated for more than a line or two in extent, but from this point downwards, as far as the iliacs, the artery was split up by the blood, which had been forced along between the the fibres of the middle coat. Throughout, the aorta and its main branches were studded with atheromatous deposit. The heart was enormously enlarged. The valves and endocardial membrane were healthy, with the exception of a slight opacity of the former; the coronary arteries were healthy; the lungs were healthy; the kidneys pale and mottled. The author remarked on the important chain of morbid phenomena presented by the case, and considered the general arterial disease as the origin of all the structural changes both in the heart and brain. The patient appeared never to have had any arthritic disease, and there was nothing to indicate that the heart or pericardium had ever been inflamed. The hypertrophy of the heart was therefore referred to the loss of elasticity of the aorta; but it was suggested that the aortic valves might, in consequence of the force to which they were subjected, have allowed some regurgitation; and the existence of a diastolic bruit was supposed to favour such a view. The augmented nutrition of the heart, and the healthy condition of the coronary arteries, were contrasted with the condition of the brain and its diseased arteries.

Dr. Addison said that a diastolic murmur could be produced by aneurism without interfering with the aortic or pulmonary valves.

Dr. Kingston said that, in connection with Dr. Bennett's very interesting case, he might mention one showing that dissecting aneurism occasionally proceeds from a somewhat different condition of arterial disease—from the senile degeneration of the arterial tissue. It occurred in a lady, aged 76, who, sixteen hours before death, had been seized with hemiplegia of the left side and suspension of the pulse at the right wrist, which were found after death to have depended upon an immense dissecting aneurism of the ascending aorta, and continued along the innominata, so as completely to close up its channel, and thus to cut off the main supply of blood to the right hemisphere of the brain.

Dr. Theophilus Thompson remarked that Dr. Bennett's communication appeared to him of special value as describing a case of dissecting aneurism in a patient whose previous condition had been for several months carefully watched. It was worthy of remark that the patient had never suffered from rheumatism—a complaint which had been considered favourable to the production of this form of disease, and which had

existed in a case under Dr. Thompson's care, read to the Society a few years ago. By some other observers the change in the middle membrane of the artery which disposes it to this separation of its layers was considered to be a result of inflammatory action; and to this view, as far as Dr. Thompson remembered, Rokitanski inclined, in his interesting chapter on the subject, but no symptoms of such inflammation had been noticed by the author of the paper. Dr. Thompson thought it not unreasonable to attribute the impairment of the elasticity and coherency of the membrane to an altered nutrition or variety of degeneration which might almost be regarded as a premature old age of the part; and as having, so far, analogies to the atheromatous and other degenerations of arteries referred to by Dr. Kingston as occasionally resulting from fœtal degeneration. The softening of brain observed in Dr. Bennett's patient was a coincidence which had been noticed in other instances of dissecting aneurism; and, as far as Dr. Thompson had been able to investigate such cases, he was disposed to think that the softening of brain was attributable to the same cause as the rupture of the aortic coats—namely, a diseased condition of the arteries interfering with nutrition, and favouring the apoplectic effusion of blood, rather than to the temporary interference to circulation occasioned by the intrusion of a current of blood between the arterial tunics. In some such cases the paralytic symptoms might be long obscure, or might partially subside. Thus, in the case of Mori, the distinguished musician, paralytic symptoms had existed some months before death, but had almost disappeared, when a rent took place in the middle coat of the aorta, rather high up, producing dissecting aneurism; and some pints of blood escaped into the cavity of the pleura, and the brain was found extensively softened: thns presenting some striking analogies to the history just detailed. In several cases of dissecting aneurism, the kidneys had been found mottled, and may be supposed to have contributed to the aortic disease. In Dr. Bennett's case, the affection of these organs would seem to be secondary. In Dr. Thompson's, and in some other cases of dissecting aneurism, the patient, shortly before the fatal accident, complained of violent pain of abdomen. This symptom in Dr. Bennett's patient did not seem to have occurred. Dr. Thompson subsequently added, in reference to remarks made by Dr. Black and others, that he thought it easy to explain hypertrophy of the heart in such instances, notwithstanding a healthy condition of the valves, since the impaired elasticity of the middle coat, whether with or without atheroma, lessened the aid rendered to the circulation, which, after the manner of a spring, gave a continuous influence to the action of the heart. That organ might, therefore, require quite as much effort as it would in the case of valvular obstruction. In Dr. Thompson's case the aortic valves were perfectly healthy, and those of the pulmonary artery approached the condition termed cribriform by Dr. Kingston. There were no signs of regurgitation, but there was decided hypertrophy of the heart; the left ventricle, on a level with the valves, being about an inch in thickness. The aorta was dilated, having a circumference of four inches—far exceeding that of the pulmonary artery.

Dr. Williams differed from the opinion expressed by the President, that a diastolic murmur could be produced by aneurism without interference with the aortic or pulmonary valves. He (Dr. Williams) had met with instances in which regurgitant aortic murmurs were heard in greatest intensity at various spots between the left nipple and mid-sternum,—their loudness depending, as he had long ago shown, on the proximity of the left ventricle to the anterior wall of the chest, which varied much with the enlargements and displacements commonly occurring in extensive disease of the heart. The atheromatous thickening of arteries was now generally understood to be of the nature of fatty degeneration, which, although apt to occur in the products of inflammation, and therefore being occasionally a sequel of arteritis, yet might take place as a perversion or degradation of ordinary nutrition in cachectic states, like other instances of fatty degeneration.

Dr. Peacock wished to inquire of Dr. Bennett, whether the competency of the aortic valves had been tested by the action of a column of water, before the orifice was divided. If this was not done, it was difficult to decide whether there was or was not any regurgitation. Though considerable general hypertrophy of the heart was frequently seen, without any material valvular disease, he thought such an extreme amount of hypertrophy and dilatation of the left ventricle as existed in this instance very rarely occurred, unless when there had been regurgitation through the aortic orifice, and the murmur heard during life tended to support the view that the valves had not been entirely competent. He had recently investigated the subject of dissecting aneurism, and found that by far the largest proportion of cases were similar in their result to that of Dr. Bennett, the internal causation which led to the formation of the aneurism being generally followed, in a very short time, by the rupture of the external wall of the sac.

There were four or five cases on record, in which the internal rupture had a similar situation to that in the present instance; and there was also another case, in which the sac burst into the left pleural cavity. In Dr. Bennett's case, the rupture of the vessels in the brain was antecedent to the formation of the dissecting aneurism; but, in some cases, the sudden obstruction to the flow of blood caused by the aneurism occasioned a second rupture of some other part of the vessel. This occurred in two cases which fell under his own notice, and in several on record the cavities of the heart had given way from the same cause. The case was particularly interesting to him, as it confirmed an opinion which he had before expressed, that the sac of the dissecting aneurism would probably always be found to be situated in the laminæ of the middle coat of the artery, and not between the middle and external coat. He had performed several experiments in reference to this point, and had found that the external coat alone does not possess sufficient density to retain a column of fluid injected between it and the middle coat. In five or six cases which he had examined, in the recent state, he found the sac situated between the laminæ of the middle coat; and in two cases which he had had the opportunity of carefully dissecting, and which had been previously described as cases of dissecting aneurism, in which the sac was situated between the middle and external coat, he had found that a distinct layer of the middle coat had been separated with the external coat forming the outer wall of the sac; so that the aneurism was really situated between the laminæ of the middle coat.

Dr. Black remarked that he gave a general concurrence to the observations which had fallen from the different gentlemen in reference to the case before them; he thought also that the author of the paper had submitted to their consideration, with much succinctness and ability, the most important points which it involved. There was, however, one point of much interest in a physiological point of view, and not unimportant in its practical bearings, on which no observations had been addressed to the chair, and which, though distantly alluded to by the author, had not engaged that attention to which, from its importance, it was entitled. The case was one in which, from the amount of disease, little could be expected from remedial measures; at the same time he thought that that part of the treatment which had reference to the heart was perhaps in some degree misdirected. The condition of this organ, though enlarged in a great degree, and vastly hypertrophied, may certainly be considered a disease *per se*, yet it could not operate as such in the particular circumstances of this case; and the proof of this opinion is to be found in the fact that the patient's health was good, and his circulation unembarrassed—as far, at least, as his own feelings were concerned, or appearances indicated—up to the time at which he became the subject of the paralytic seizure. Doubtless in this case the ossification of the arterial system and the heart's hypertrophy must have existed for a very long time; they had gone on in some degree *pari passu*, though the one must be considered consequent on and rendered necessary by the other. The phenomena in this case correspond with Dr. Black's general experience, and illustrate the relation (unobscured by valvular disease) between hypertrophy of the heart and general rigidity of the arterial system. Indeed, without this sequence or pathological relation it would be impossible that life should be prolonged, and this result becomes manifest from a moment's consideration of the powers by which the circulation is maintained; if the spring which has to be acted on loses its elasticity, a greater force must be called into action, or the effects which depend on its reaction will cease. It had been his (Dr. Black's) intention, in the remarks which he had taken the liberty of making, to elucidate the relation between some of the phenomena of the case, and to convey his opinion that we are apt to be misled in such cases, if we direct our treatment to that which, in the particular circumstances, cannot operate injuriously, but, on the other hand, must rather be considered necessary, or perhaps even advantageous.

Dr. Bennett, in reply, doubted whether there was anything in the artery that could be called an aneurismal sac, but that there were, undoubtedly, various depressions arising from the irregularities produced by the extensive deposits of atheroma, and that it was possible the bruit might be produced by the passage of the blood along an artery whose surface was thus unequal. He admitted the question to be important; as, *e. g.*, in reference to Dr. Black's view of its being undesirable to interfere much with the over-action of the heart, if this was the result, and the desirable result, of impaired elasticity of the artery; if the bruit was not held to be diagnostic of disease of the artery, there was nothing to lead to the conclusion, during life, that the hypertrophy of the heart was the necessary and salutary consequence of the state of the artery, and therefore not to be much interfered with. To Dr. Thompson he replied that there had been no pain along the course of the artery.

Medical Trials and Inquests.

DISCOVERY OF ARSENIC IN A BODY AFTER EIGHT YEARS' INTERMENT.

Westbury, Wilts.—In consequence of the recent inquest here, at which a verdict of "wilful murder" was returned against Rebecca Smith for procuring the death of her infant child by the administration of poison, it was deemed advisable to exhume some of the bodies of the nine other children, who have all died in infancy. Accordingly, on the 11th inst. two bodies were disinterred from the burying-ground of the Baptist chapel at Bratton, in this parish, under the superintendence of Mr. Shorland, surgeon of Westbury, by whom the remains were taken to Mr. Herapath, of Bristol, for analysation. A coroner's inquest sat on that day, which was adjourned till this day, after taking evidence of the identity of the exhumed bodies.

At the resumed sitting Mr. Shorland described the state in which he forwarded the bodies to Mr. Herapath, after which that gentleman gave the following evidence :—"On the 12th inst., on my return from Exeter, I found at my laboratory a large square shallow box, on which the cover was sealed down with a crest similar to that on Mr. Shorland's seal. This seal was perfect. The box was divided into three compartments by two divisions; in one of which was a portion of soil tied up in a handkerchief. In the next compartment I found a mass of earth and the remains of a coffin exceedingly decomposed and penetrated in all directions by the roots of a tree. There was a label in Mr. Shorland's handwriting on the top of this, to this effect—'Sarah Smith, born July 18, 1841; died August 7, 1841; aged 20 days.' Upon carefully removing portions of the soil, I found the remains of an infant, evidently very young, as there were no teeth in the sockets of the jaw, with the exception of one toothbud on the front of the lower jaw. The texture of the body was entirely gone, and the bones were all separated from each other. I took some of the bones and subjected them to analysis, when I found in them traces of arsenic. I then took some of the black mould from the interior of the skull, and in that I also found traces of arsenic. I then sought for some of the black mould between the ribs, and nearer the region of the stomach, and there I found arsenic in greater quantity; specimens of which I produce." Mr. Herapath then exhibited tubes containing arsenious acid, metallic arsenic, Scheele's green, and orpiment, produced by various tests, and continued :—"This, I believe, is the first instance on record of arsenic being discovered after an interment of eight years; and I wish it to be circulated throughout the country that years have no effect in removing traces of arsenic. In the third compartment I found also the remains of an infant, with a label in Mr. Shorland's handwriting, as follows :—'Edward Smith, born June 14, 1844; Died June 29, 1844; aged 15 days.' This body and coffin were nearly in the same state as the others; the bones below the knees were wanting. The roots of trees as large as my little finger had passed through the head and skeleton, and had followed the bones in all directions. Treating this skeleton as I did the other, I found arsenic in the bones, in the black mould under the head, and a greater quantity in the black mould under the ribs. I produce specimens of metallic arsenic, and the other tests, which are even more distinct than those in the last case; this is after an interment of five years and one month."

The Coroner.—From the statement you have made, and from your analysis, have you any doubt that arsenic was administered during life?

Mr. Herapath.—I have never found arsenic in a body which was in a natural state; and I mention this to correct the ridiculous notions which have gone abroad, owing to some sayings which have been attributed to the French chemists. Raspail, for instance, is reported to have said that he could produce arsenic from the legs of chairs, and Orfila that he could do so from the common soil. I have made experiments on hundreds of bodies of human beings and brutes, but have never discovered arsenic unless it had been administered medicinally or for a criminal purpose. I have also made many experiments on soils, and I believe the statement of Orfila to be a mistaken one. My opinion is, that arsenic was administered to both these children during life, and that it was the cause of death; it existed in too great a quantity to have been administered for a medicinal purpose.

The Jury, without hesitation, returned a verdict "That the deceased children died from the effects of arsenic, but how or by whom administered there is no evidence to show."

*** The discovery of arsenic in the bones is very unusual, as it is not deposited in these organs by absorption. A case was recently reported in this journal* in which arsenic was detected in the remains of a body after an interment of fourteen years.

* See our last volume, page 894.

Correspondence.

THE BRISTOL MESMERISTS AND THEIR DELUSIONS. THE CASE OF LORD DUCIE.

We insert the following correspondence in reference to an article which recently appeared in this journal,* on the Bristol Mesmeric Institute and the case of Lord Ducie.

(*Copy.*)

Sir,—Having had my attention drawn to your leading article in the Medical Gazette of July 6th, in which you designate the published report of the public meeting held at Bristol, for the purpose of establishing a Mesmeric Institute, "a hoax from beginning to end"—and that "the concoctor of the so-called report has been guilty of a species of mental travelling," &c.,—in answer to this unfounded assertion, I beg to hand you a copy of a letter just received from Mr. G. F. Powell, which will effectually eradicate from your mind the mental delusion under which you appear to have been labouring.

Quay Ilfracombe,
July 16, 1849.

To Dr. Storer.

Sir,—I can have no hesitation in assuring you that the report of the meeting of the Bristol Mesmeric Institute, Earl Ducie in the Chair, which appeared in the *Bristol Mercury*, was a faithful report of proceedings which took place upon that occasion. It was not the "concoction" of any person, but a fair and tolerably ample transcript of notes taken by me, in the usual mode, of the observations which fell from the different speakers. There were among the audience, clergymen, medical practitioners, and other persons fully qualified to judge of the fidelity of the report; and I think that I may venture to rest my professional reputation, as well as that of the paper I represent, upon their decision.—I have the honour to be, sir,

Your obedient servant,
Geo. F. Powell.

With regard to your statement respecting Earl Ducie, that "he has, like a reasonable man, discontinued these mesmeric absurdities," I beg to call your attention to the following letter, which I have had the honour of receiving from his lordship, after having sent him your Gazette in question.

Sir,—I am much obliged to you for sending me the Medical Gatette. The editor is perfectly correct in saying that I have consulted Dr. Fergusson, and that I have been benefited (beyond my most sanguine hopes) by the kind attention paid to me by my friend Mr. Spencer Wells, to whom I would earnestly recommend every sufferer from rheumatic gout to apply at 24, Belgrave Square. Nevertheless, what I stated at Bristol is equally correct—viz. that I had been relieved from inflammatory pain by the action of mesmerism, and that in the state of nervous weakness produced by my attacks, I had been tranquillized, and rest had been produced by the same means.

And believe, &c.,
Ducie.

To S. D. Saunders, Esq.

The originals of the two foregoing letters are in my possession, and I should feel much pleasure in submitting them for the perusal of any parties that you may appoint.

Believing that you take a pride in following out an honourable line of conduct, I have no doubt that this communication will be placed fairly before your readers in your next impression.

I remain, sir,
Yours obediently,
S. D. Saunders,
Hon. Sec. to the Bristol Mesmeric Institute.

Sir,—Under the above title in your leading article of the week before last, you have assumed the late proceedings of the Bristol Mesmeric Institute to be a hoax, and you state that the concoctor must have been labouring under that species of hallucination known as mental travelling. You also assert that Earl Ducie stated that he had been cured of gout by mesmerism. Now, if you will take the trouble to read the report which was sent to you, I do not think even by implication that this construction can be drawn. That Earl Ducie is desirous of doing justice to all parties in the case is sufficiently proved by the accompanying note from his lordship (see *suprâ*) addressed to the Secretary. I also inclose you another from the reporter of the proceedings in the *Bristol Mercury*.

If necessary, I could forward you the attestations of the various speakers on the occasion—also of a large number of auditors—who would willingly bear witness to the truthfulness of the meeting, and to the fidelity of the report.

Your insertion of this in your next Gazette, with the accompanying notes, will, I trust, be felt as a necessity in justice to all parties.

I am, sir,
Yours obediently,
Henry Storer, M.D.
Physician to the Bristol Mesmeric Institute.

Bristol, July 17, 1849.

* See Medical Gazette, July 6, p. 26.

*** It therefore appears that the meeting was *not* a hoax, and that there is really a Mesmeric Institute in Bristol, provided with a Secretary, &c. We can assure Dr. Storer, that we read the published report, and were so shocked at the absurdity of the proceedings, that we preferred believing it to be a ruse for the encouragement of mesmerism, rather than adopting the supposition that any grown-up and decently educated persons should by their presence have given their sanction to such proceedings. We take the following extract from the speech of a Mr. Janson, one of the Vice-Presidents, who moved the adoption of the report:—

"It was not for him (Mr. Janson) to say much of his own doings, but he might state that he had practised mesmerism for the period of six years, during which time he had had come under his personal observation every mesmeric phenomenon which he had ever read or heard of—not only the lower phenomena of coma, traction, insensibility to pain, rigidity, &c., but the higher phenomena, community of taste, *mental travelling*, *introvision*, and latterly *one case of prevision*, which he conceived to be the highest power—*for what could exceed the power of prophecy?* This power was almost too high to be mentioned at a mixed public assembly, for our present state of knowledge was not sufficiently advanced for it. In the case he referred to, the patient had, *by the power of pre-vision, foretold every circumstance, even to the most minute—not only the progress of the disease, the period at which she would be affected by particular symptoms, but she had likewise foretold other things, in regard of which there could have been no deception or collusion.* For instance, the patient once said, "I shall have a letter delivered to me next Thursday, at three o'clock." He had put down the fact in his note-book. The patient had told him what would be the contents of the letter, and had dictated those contents word by word, some of the matters treated of not being mere common-place matters. He had written down the letter from the dictator, and when it afterwards arrived had taken the letter in one hand and the note-book in his other, and had found them correspond in every particular. He scarcely expected this fact to be believed—the power was too much in advance of the present day: but he considered it right to place before the meeting all he knew."

According to the speaker, mesmerism can convey a power of prophecy. Thus, we are required to believe not only that a person may travel mentally, and describe minutely places which he has never visited, and persons whom he has never seen,—that he may see objects with his navel, and read Greek, or even Coptic, with the point of his elbow; but there is a still higher power than this which the mummery of mesmerism is alleged to be capable of conveying,—a power which has hitherto been considered by all right-minded persons to be the especial gift of the Supreme Being—namely, that of prophecy. The speaker rightly judges that his "fact," or, more correctly speaking, his assertion, will not be believed,—"the power was too much in advance of the present day." It is incredible that men of religious principles, and possessing common sense, should allow such blasphemy to pass without protesting against the sentiments of the speaker. Miss Nottidge has lately been pronounced insane upon high authority because she believed that the President of the Agapemone, or Abode of Love in Devonshire, a certain Mr. Prince, was the Almighty! Dr. Conolly might, we think, now examine the cases of the Bristol mesmerists, and tell us whether, if Miss Nottidge should be confined, the mesmerists who believe in the gift of prophecy should be allowed to go at large. The mesmerists are certainly not *dangerous* to themselves or others, and their subscriptions to carry out impossible designs may not seriously damage their worldly means; but when they adopt such delusive views as that the Divine gift of prophecy can be conveyed by "sundry manipulations, it is surely necessary for their own protection, the peace of their families, and the comfort of society," that they should be put under temporary confinement in an asylum.

Either Dr. Conolly must be prepared to allow Miss Nottidge to go free, and enjoy her belief that Mr. Prince is the Almighty, or he must join us in the opinion that a large number of mesmerists possessed of property should be dealt with on the principles which he would apply to her case.

One word with respect to Lord Ducie. We reassert, in spite of Mr. Saunders's inuendo, that his lordship *has* discontinued these mesmeric absurdities. He is now,

and has been for two years, under the treatment of respectable professional men, who would not lend their sanction to any mesmeric practices. It is clear from his own letter that his lordship has no real faith in mesmerism,—1st, because if he had, he would still continue to resort to it; and 2d, he recommends every sufferer from rheumatic gout to apply for relief—*not* to the mesmerists at the Bristol Institute, but to his friend, Mr. Spencer Wells, at 24, Belgrave Square, a highly respectable naval surgeon. It is certainly to be regretted that Lord Ducie should give even a theoretical support to these proceedings: but we judge rather from a man's acts than his specches; and as his lordship, by entirely laying aside mesmeric treatment, has shown no faith in it, the Bristol Institute may make the most of his speech as an advertisement for procuring subscribers.

THE PROPAGATION OF CHOLERA BY CONTAGION.

SIR,—The inquiry of Dr. Parkes, on the strict theory of contagion as it affects the early cases of the present epidemic of cholera, presents several important points for consideration. From a table drawn up by him,* it appears that out of the total number investigated (twenty-eight cases), in thirteen contagion, or contact with persons labouring under cholera, was not detected; in other thirteen the evidence of contagion or contact was clear and explicit; while in the remaining two it was presumptive. We may then say that the majority had decided evidences of contact. But we have to add this circumstance, which seems requisite to complete the evidence the tabular view affords, that while of the thirteen in whom contact could not be ascertained, there were only eight in all in whom the cases were absolutely isolated in every sense of the word; that is to say, the disease did not extend from the individual. But what is the history of the remaining five? They severally became foci of the disease to others, for of the whole cases in which contact was proved (fifteen), fourteen arose from, or at least were in communication with, one or other of those FIVE, or proceeded from cases, which were not primarily (so far as could be determined) the result of other than ordinary atmospheric, terrestrial, and corporeal conditions. These five, then, if they did not arise from contact, nevertheless produced the *effect* of contact, and therefore it is not overstepping the strict bounds of logic if we say that they participated in one of the most characteristic properties of contagious disorders, that of producing the disease in others. Hence we have twenty-one out of the twenty-eight, or three-fourths of the whole, all expressing distinct relationship with contact, either producing the disease, or being produced by it.

This, then, is a very large proportion, and we question much if in avowed instances of diseases, which are generally allowed to be contagious, as small-pox, or measles, or scarlatina, or typhus fever, an equal number of cases submitted to as searching a scrutiny will offer such a preponderant result of cases, distinctly to be referred to contact or intercourse with those labouring under similar affections. In the case of typhus fever, Dr. Perceval, of Dublin (Hardwicke Fever Hospital), during the prevalence of the epidemic of 1817-18-19, made this a matter of investigation, and of most careful analysis, and, if we remember right, said that only *in one-third* could distinct evidences of the application of the contagious virus be adduced: still, no Irish physician questions the production of typhus by infection.

It is further proper to keep in view the fact, that the histories of almost all epidemics indicate that at the beginning they were ushered in by isolated cases, sudden, and at great distances from each other. We are not to mould nature in our own crucible, or measure her by our bed of Procrustes. We are bound to take the facts as we meet them. It would be the height of arrogance, no less than of ignorance, to suppose we have ascertained all the possible modifications of the contagious principle. The late Dr. Wells proved substantially and indubitably the infectious nature of erysipelas. New poisons have appeared in our own days, as the glanders affecting the human subject, and the diffuse cellular inflammation from wounds consequent on dissection.

But without pursuing the subject further, not a few uncontested instances of the distinct propagation of cholera by contagion, have been shown, in our own country, on the continent, and in America. For all practical purposes, which is the reduction of theory to the purposes of daily life, one well-authenticated case of infection (and there are many such), determines the question so far as regards the precautions to be commended. How a disease at one time is distinctly the result of contagion, implying thereby a specific organic action, and how it at another is the result of purely physical causes, we shall not stop here to inquire: reasons may be assigned for that two-fold origin of diseases, and not improbable. The positive fact we

* We have not room for the table.

cannot doubt, and it is on facts alone that we can presume to establish the superstructure of correct and legitimate reasoning.

Your obedient servant,
WILLIAM REID, M.D.
Lecturer on the Practice of Physic.

ADJUDICATION OF PRIZES AT ST. THOMAS'S HOSPITAL. REPLY TO A CHARGE OF UNFAIR DEALING.

SIR,—We, the undersigned, were appointed, by our fellow-students, as a Committee, to draw up a letter in answer to an anonymous attack which appeared in the Lancet for the 23rd of June, directed against the institution with which we are connected; we accordingly wrote to the editor of that journal, emphatically denying the allegations of his correspondent, and requesting the insertion of our communication: its receipt was acknowledged in the following number, but no further notice has been taken of it.

The author's intention evidently is to injure the school, and to wound the feelings of the gentlemen connected with it.

In the first place, he strives to convey the impression that, owing to the friendship of Mr. Whitfield, the prizes were unjustly awarded to Mr. Money, and states that he had reason to know beforehand to whom they would be adjudicated; and, to give his accusation the appearance of truth, acquaints us with his respect for that gentleman's talents and industry, presents us with a copy of one of the examination papers, and informs us that he is himself an uninterested party.

The first statement is altogether incorrect. Previous to October last, Mr. Whitfield and Mr. Money were totally unacquainted with each other, and since that period the latter gentleman has enjoyed no more of Mr. Whitfield's friendship than every industrious student is likely to obtain.

The assertion that the prizes were unjustly awarded, and that the writer had a foreknowledge of that event, no gentleman can believe. Surely the fair fame of the adjudicators is not to be tarnished by the imputations of any anonymous calumniator! The gentlemen alluded to are Drs. Leeson and Bennett, and Messrs. Le Gros Clark and Taylor; to whom must be added, as being on the committee of lecturers, Dr. Barker, and Messrs. J. H. Green and Grainger,—gentlemen whose moral worth is unquestioned and unquestionable.

The assertion that there were three questions only in each subject, is equally incorrect, there being six in Materia Medica, Chemistry, and Anatomy, severally.

The paragraphs concerning clinical lectures and clinical clerkships, are untrue. The former have been delivered since November last, with scarcely a week's intermission, and the latter are only neglected by those ignorant of their value.

The remainder of the letter is so evidently an attempt to injure and annoy the gentlemen who are mentioned, that we shall not reply to it.

In conclusion, Sir, we may state, that had the author endeavoured to improve what was amiss, and to eradicate what was wrong, we should never have risen in a body to deny our participation in his sentiments.

We are, sir,
Yours, &c.
J. S. BRISTOWE.
LEOND. W. SEDGWICK.
CHARLES O'CALLOGHAN.
JULIUS WILES.

St. Thomas's Hospital,
July 17th.

*** The fact that such a charge as that to which the above letter refers was made anonymously, is intrinsic evidence of its falsehood. Had there been any truth in his statement, the writer would not have hesitated to attach his name to his letter.

Medical Intelligence.

CHOLERA IN THE PROVINCES.

Portsmouth.—From the 1st to the 21st July inclusive, there were 239 deaths from cholera. At Haslar, since the 16th inst., there have been 8 cases of pure cholera admitted, and about 20 of diarrhœa. Of pure cholera the total number of cases in that establishment have been 25, of which 9 have proved fatal. In the recent 8 cases, 5 have been brought in from the head-quarters of the Royal Marines at Forton, and 3 deaths have taken place within the last week, varying from 8 to 24 hours after admission. The cases now remaining in the Hospital are generally doing well.

Salisbury and Bristol.—In these towns the disease has declined. In Bristol there were, up to the 25th inst., 217 cases and 101 deaths.

Plymouth, July 23.—The decrease of sickness in this town is quite confirmed by the official report issued by the Board of Health yesterday (Sunday) evening—viz. new cases of cholera, 6; choleraic diarrhœa, 11; diarrhœa, 2; total new cases, 19; deaths, 4. This report exhibits a gradual diminution of sickness, and it is now considered by the medical staff of the Board that the worst of the disorder is passed.

Merthyr.—The Asiatic cholera has been most fatal in this vicinity, notwithstanding all the efforts made to arrest its progress.

From an official return published up to the 24th instant, it appears that in Merthyr the total number of cases from the commencement have been 1,300; deaths, 531. In Dowlais, the total number of cases are 386; deaths, 151. In Aberdare, total cases, 203; deaths, 33. Total in the three places—cases, 1,889; deaths, 718. The disease is still raging, notwithstanding the exertions made to mitigate it by the Board of guardians, the medical staff, and the authorities generally. The preventive measures at Dowlais were at first successful, but there the disease is at present more virulent, in proportion to the population, than in any other part of the district.

THE CHOLERA IN HOLLAND. BY DR. W. ALEXANDER, HALIFAX.

It was not until the first week in April that the Indian pestilence first appeared in this land of dykes as an epidemic, though isolated cases had here and there indicated its near approach. The boatmen at the Briel were severely visited by it, and in Rotterdam it still prevails, though with less intensity than a month ago. During the first four days of the present month, 142 cases were reported as occurring at Amsterdam, though these numbers, I feel persuaded, afford no real index of the extent to which this city is infested with it. In the almshouse temporarily appropriated as a cholera hospital, in the Kloveniers Burgheval, I myself saw upwards of sixty poor creatures in all the various forms of this intractable disease. Through the courtesy of Drs. Van Deventer and Brevet, who are in charge of this asylum, I was put in possession of the fullest information on the subject of the present visitation at that place; and if I am unable to add that their treatment of it has been attended with a larger measure of success than elsewhere, I can truly say that their superior intelligence and devotedness to the sick deserved a happier result. The fact is, that to prevention we must look rather than to a cure of this as well as other epidemics; and in no country in Europe are sanitary arrangements so necessary or difficult as in the town districts of Holland. Its physical character does not afford, in many instances, any outlet to the drainage whatever; and the street-canals are but gigantic sewers, which have received the house-waste and town-refuse of centuries. A comparative exemption from pulmonary consumption in the Low Countries will scarcely compensate for the hundred and one other maladies to which they are from this cause so prone. The cholera will long linger about the Zuyder Zee, or I am much mistaken; and the only habitable parts of Western Holland, in my opinion, are the Hague, Leyden, and Haarlem.

HONOURS CONFERRED ON MEDICAL MEN IN PARIS.

M. Dufaure, the Minister of the Interior, has addressed a Report to the President of the Republic, recommending several physicians attached to the hospitals of Paris for the decoration of the Legion of Honour, in consequence of the zeal displayed by them during the prevalence of the cholera. The report is followed by a decree of the President, conferring the decoration on the persons recommended by the Minister.

IDIOTCY IN THE COUNTY OF LANCASHIRE.

From the reports of the Lancaster County Asylum in previous years, it has appeared that a greater proportion of the insane patients was furnished by the agricultural than by the manufacturing districts; and that of these, the hilly districts furnish the greater proportion of idiots.

The medical officers of the Asylum, Dr. De Vitre and Mr. Gaskell, impressed with the importance of a special training for these unfortunate objects, have taken great pains to collect as many facts as possible, giving a just idea of the extent of the evil as well as of the necessity for a speedy remedy. The result of extensive inquiries among the union medical officers throughout the county shows that, of those congenitally affected, there were—

	In the year 1848.	Under 25 yrs. of age.	Average age of the whole.
Females . . .	106	26	39
Males	107	35	34

A large number of cases do not come under notice, from various causes, until they have passed the period of youth. From other returns it was found that there were 503 idiots or imbecile persons not confined in any asylum. A great addition would be made to this number if the young under private care, or not under notice at all, were added. In the absence of positive data, it is believed that there are a greater number of idiots and imbeciles in this province than in any other parts of England. There are some districts of Lancashire where idiotcy is so prevalent as to give rise to the opinion that local causes contribute to its origin. This is more particularly the case among the poor in the secluded dales formed by the range of hills separating Lancashire from Yorkshire. In one instance the proportion was as high as one in a hundred; and here it was noticed that intermarriage has evidently formed one of the circumstances which had given rise to this degeneracy, though in general this cause could not be alleged as operating. We have compiled the following table from the statistical tables in the report for the year 1848:—

Table of number of Idiots in the several Hundreds of the County of Lancashire in 1847.

	Idiots.	Imbecile.
West Derby	33	64
Salford	80	129
Amounderness . . .	20	29
Leyland	15	28
Lonsdale	23	19
Blackburn	27	36
Total	198	305
Total of other forms of insanity during same period . . .	185	

We may add, in reference to the preceding table, that in the hundred of West Derby, the chief town is the great Port of Liverpool—in that of Salford, the manufacturing town of Manchester—in the maritime hundred of Amounderness, the new Port of Fleetwood and the ancient borough of Preston — in the central hundred of Leyland, the manufacturing and trading town of Chorley—in the agricultural hundred of Lonsdale, is situated the county town—and in the Blackburn hundred, are Bury, Blackburn, and several other manufacturing towns. The number of the population, as well as the habits and occupations of the inhabitants, of these several hundreds must necessarily vary greatly. χ

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 20th inst. :—J. G. Wakley—L. J. Maurau—F. Follows—T. Ringer—A. G. C. Thiselton—H. S. Grant—R. Powell—H. W. Dixon—D. G. M'Pherson—J. W. Waken—H. Newcombe—C. Terry—J. P. Swanwick.

Admitted on the 23rd inst. :—S. A. Brough—R. R. Prance—C. D. Nettleton—G. W. Walter—G. T. Jones—W. Helps—T. H. Walmsley—W. W. M'Creight—T. M. Williams—P. J. Mullarky.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 19th of July, 1849 :—Frederick Thomas Backway, Gravesend—Charles Octavius Rowley, Barnsley—Henry Duncan Smith, Sandwich, Kent—Benjamin Tillyer Blunt Baillie, Dorchester Place, New North Road—William Squire, Silsoe, Beds—William Tomlin, Nottingham—William Thompson, Drigg, Cumberland — John Hayes, Longton, Staffordshire — William Thomas Sampson Ingram Hardy, Devonport.

APPARENT INTRA-UTERINE AMPUTATION.

DR. LUDWIG MELICHER, in the Oesterreichische Medicinische Wochenschrift for April, 1848, relates the following very interesting case: Joseph G——., 12 years of age, a pupil in the Imperial Grammar School, born of healthy parents, was the fourth child, and one of seven brothers and sisters, all born healthy, and well made. His mother states that she suffered no accident of any kind during her pregnancy with this child. He had always been healthy, with the exception of an attack of typhus three years ago. He is well formed for his age, his limbs of average proportions, except the left upper extremity, which presents the following unusual appearance—viz. a congenital entire deficiency of the lower two-thirds of the left fore-arm and hand. It appears at first sight as if amputation had been performed, but that such is not the case is evident from the presence of five little rounded elevations on the end of the stump, representing the fingers; one of them the size of a small pea, and furnished with a rudimentary nail, was separated from the others by a deep line, and corresponded to the thumb; the rudimentary fingers are about the size of hemp-seeds: they are soft, and contain neither cartilage nor bone. When the stump is bent, they become very distinct. On the internal and on the external borders of the stump, close to those elevations, are two funnel-shaped depressions. The stump itself has the appearance of a nine-pin flattened, its base at the elbow-joint measuring two inches: its apex is one inch and a half in width: its length is two inches and three-quarters. It is soft and spongy to the touch, as if padded with fat, and, on closely examining it, two bones may be distinctly felt; one corresponding to the radius, the other to the ulna. The elbow-joint is normal. The internal and external condyle, and also the olecranon, can be distinguished. Flexion and extension of the stump of the forearm are perfect, but pro- and supination cannot be freely performed.

Through the unnatural mobility of the shoulder-joint circumduction of the flexed or extended stump is rapidly performed, and by these means he is enabled to assist himself, and perform therewith the most varied actions—*e. g.* he can by its employment withdraw the bolt of a door, and open it; he inserts the flexed stump into the handle of a basket, and readily moves it. The stump possesses in this manner considerable strength, so that he can drag along heavy weights. In cutting paper he holds down the paper with the bent stump, while he cuts it with the knife held in the hand of the other arm. He holds the paper in a similar way while writing: he can tie a knot, put on his cravat, and dress himself

without any other assistance. He can even mend a pen without difficulty: holding the feather end in the bend of the elbow, and cutting the quill with the hand. He further aids the stump by the use of the shoulder-joint and knee. Thus he in many ways compensates for this unfortunate deficiency.

Dr. Melicher very justly regards the preceding deformity as an arrest of development, and as confirmatory of the theory of the centrifugal growth of parts. He refers to the reports of similar deformities by various authors, accompanied with defects of other limbs or organs; and he gives, with engravings of the preceding case, a drawing of a case which he saw in Vienna, where the fore-arm was replaced by three fingers. The child died at the age of three months, of hydrocephalus acutus. On examination of the arm, it was found that the biceps was divided at the elbow into three strips, which moved the fingers anteriorly; posteriorly they were moved by prolongations of the triceps.

A reference to the recorded observations of authors leads Dr. Melicher to divide cases of intra-uterine amputation into (1) the real, and (2) the apparent.

1. The cases of *real* intra-uterine amputation may again be divided into perfect and imperfect. Perfect intra-uterine amputation has been traced either to entanglement of the limbs with the umbilical cord, or to inflammation and sphacelus of the limb or limbs. Imperfect amputation may arise from a similar entanglement of the cord, cutting into, but not dividing the member; and under these circumstances inflammation may be set up, producing deformity, or ending in spontaneous amputation, as in those rare instances where the amputated limbs or parts of limbs have been expelled detached from the trunk.

2. *Apparent* intra-uterine amputation belongs to that class of malformations which consist in an arrest of the growth of a portion of the organism, while the remainder proceeds in its normal development. Such is the nature of the preceding and a few other analogous cases which have been put on record.

Dr. Melicher has brought together most of the names of the authors who have recorded these cases. We add the following, which we find recorded in the Medical Times of Nov. 19th, 1842, by Mr. W. B. Kesteven, under the title "Effect of Maternal Imagination on the Fœtus." It has escaped the notice of Dr. Melicher most probably from the objectionable heading under which it was recorded; as it appears to us objectionable, from its assuming, as an explanation of the cases, a theory which is regarded by physiologists generally as destitute of foundation. Dr. Melicher's title, "Apparent Intra-Uterine Amputation," at once points out the characteristic features of the deformity, and avoids any inference of theoretical causes.

"An infant presented on the left upper extremity, a mere stump of about two inches in length, beyond the elbow-joint, terminated by a puckering of the integuments on which were situated five minute bodies resembling the tips of very small fingers: the child was otherwise perfectly formed. The history of the case is as follows:—

"Eight months before the birth of the child, the mother, walking with her sister (from whom I have collected the particulars), met with a beggar who, in order to excite compassion, exhibited an amputated stump on his left arm. The woman immediately expressed a sense of disgust and horror, and observed that, if she had been then pregnant, she should expect that her child would be born similarly maimed. The sequel has proved that she was then pregnant, though she did not apprehend it, and that the fears of the result were too well grounded.

"Her sister was present at her labour; and on receiving the infant, and discovering its deformity, experienced a thrill of disgust and sorrow, from which she did not recover until a few days after, when I was called to attend her for abortion, she not having previously suspected that she was pregnant.

"A few days ago I was called to attend, in her second labour, an intelligent, respectable young woman, the wife of a plumber residing in Hornsey Road, opposite to the first-mentioned woman. The child, which is otherwise perfect, presents a deformity precisely resembling that above described, with the exception of two imitations of finger ends instead of five, as in the former instance. I have collected the history of this case from the sister-in-law, the husband, and herself. About eight months since she was subjected to exactly the same circumstances as those I have related in the other case; she also did not suppose herself to be then pregnant, but expressed the same extreme sense of aversion, and her fear that 'if she had been *in the family way*' the infant would be similarly maimed."

"In both these instances the same dread of the result had been expressed during the period of gestation; and I have reason to think, though of course I cannot prove it to my satisfaction, that the same individual vagrant was the cause of alarm to each."

The subject of this case is, we understand, alive, and is a most intelligent and active lad, making as much use of his stump as the boy mentioned by Dr. Melicher.

The more extended researches of Dr. Melicher, with more correct views of medical reasoning, while they lead to a collection of facts, supply at the same time the grounds

of a more rational explanation, than is furnished by popular ignorance. It is only thus, by the accumulation and comparison of carefully recorded observations, that pathological morphology will be enabled to explain the hitherto complicated and seemingly mysterious occurrence of monstrosities. This branch of medical science will by such researches be removed from the realms of imagination, and take its place under the rule of sober facts and severe reasoning. It is here worthy of notice how one false assumption or hasty generalization leads to other erroneous conclusions. It has been by many writers on teratology laid down as an ascertained truth, that such malformations as are noticed in the preceding extracts can only occur in the early weeks of pregnancy, and that they may be the effects of emotions in the maternal mind. The explanation which further experience affords, that these deformities are to be attributed to pressure by the cord, disproves the first conclusion, for the cord may become, and is necessarily more likely to become, twisted round the limbs at a later period when the limbs are formed, than at an early period when they arebut rudimentary: and to the second conclusion, facts lend but a doubtful support. χ

CANDID DEALING WITH PATIENTS.

An old lady who was attended by her physician and apothecary, seriously requested them to inform her whether she was likely to die. After a deliberate consultation they resolved to comply with her request, and they told her they thought she was near her end. "Very well," replied the sagacious old dame, "then I must dismiss you, because if you think so it is evident you are not the persons to get me well again;" and she accordingly discharged them both. The writer's father was one of the medical attendants.—*Journal of Psychol. Medicine*, 1849.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Fruits and Farinacea the proper Food of Man. By John Smith. 2d Edition.

An Inquiry into the bearing of the Earliest Cases of Cholera, which occurred in London, during the present Epidemic on the strict Theory of Contagion. By E. A. Parkes, M.D.

A Remonstrance with the Lord Chief Baron touching the Case of Nottidge *versus* Ripley. By John Conolly, M.D.

Portraits of Diseases of the Scalp. By W. C. Dendy. No. 2.

La Presse Médicale. Nos. 19 and 20, 15th and 22d July.

Contributions to the Practice of Medicine on the Revulsive Agency of the Skin. By L. F. Crummey, M.R.C.S.L.

On Gout: it History, its Causes, and its Cure. By William Gairdner, M.D.

Researches on the Development, Structure, and Diseases of the Teeth. By Alexander Nasmyth, F.L.S.L.

Annales d'Hygiène Publique et de Médecine Légale. Juillet 1849.

Comptes Rendus. Nos. 1 and 2, 2d and 9th July.

The British American Journal, July 1849.

Dr. Ranking's Half-Yearly Abstract of the Medical Sciences. January—June.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, July 21.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	619	Males....	903	Males....	513
Females..	594	Females..	838	Females..	495
	1213		1741		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1741	1008
Specified Causes	1737	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	1002	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	39	36
3. Brain, Spinal Marrow, Nerves, and Senses	117	115
4. Heart and Bloodvessels	36	38
5. Lungs and organs of Respiration	87	81
6. Stomach, Liver, &c.	67	68
7. Diseases of the Kidneys, &c.	17	8
8. Childbirth, Diseases of Uterus, &c.	8	11
9. Rheumatism, Diseases of Bones, Joints, &c.	6	6
10. Skin	1	1
11. Old Age	34	32
12. Sudden Deaths	19	8
13. Violence, Privation, Cold, &c.	30	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	4	Convulsions	43
Measles	27	Bronchitis	29
Scarlatina	27	Pneumonia	43
Hooping-cough	38	Phthisis	149
Diarrhœa	131	Lungs	7
Cholera	678	Teething	10
Typhus	53	Stomach	5
Dropsy	12	Liver	11
Hydrocephalus	28	Childbirth	4
Apoplexy	21	Uterus	2
Paralysis	15		

Remarks.—The total number of deaths was 733 above the weekly summer average. The deaths from zymotic diseases alone were 1002, the weekly average being 302. We have elsewhere made some remarks upon this increased mortality. See page 158.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·69
" " " Thermometer[a] ..... 60·5
Self-registering do.[b] ....Max. 94° Min. 40°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·59. — Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was half a degree below the mean of the month.

NOTICES TO CORRESPONDENTS.

The papers of Mr. Frazer, Mr. Hunter, and Dr. Ogier Ward, will be inserted in the following number.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXI.

DISEASES OF THE VEINS.

Physical character of the veins—Nutrition of veins—Subacute inflammation of veins—symptoms—treatment—Effects of continued inflammation—Secretion of pus in veins—Obliteration of veins—Acute inflammation in veins, termed phlebitis—definition and classification of—manner in which pus becomes mixed with the blood—Causes of phlebitis—Secondary affection—symptoms—Phlebitis sometimes epidemic—Analogy to erysipelas—Ulceration of veins—Treatment of phlebitis—Earthy deposits in veins—Morbid growths—Varicose veins—Causes of varix—Progress of the disease—Treatment of varix—Uncertainty of—Cases.

In their physical structure the veins resemble very closely the arteries, being composed, like the latter vessels, of distinct tunics or coats, which receive nourishment, in the same manner as the coats of the arteries from the small bloodvessels of the surrounding cellular membrane, the vasa vasorum. If these small bloodvessels become from any cause incapable of performing their natural duty, the veins also undergo deterioration, and the function of the whole venous system ultimately suffers serious derangement. It is generally said that the external coat of the veins is little liable to the attacks of disease, which is usually confined to the inner or lining membrane; this idea seems, however, to have arisen from the greater apparent importance of the inner coat, rendering any abnormal change in it more evident, from its interfering with the circulation of the blood, while an equal amount of disease in the outer coat is not so likely to excite attention, as it produces less urgent constitutional effects.

When a vein is attacked by subacute inflammation, there may be at first perhaps but slight constitutional disturbance, and the inconvenience will not exceed some little local pain: trivial as this condition may however appear, it should not be neglected, and active measures ought to be adopted to subdue the increased action of the vasa vasorum of the affected vein: with this object the patient should be kept in the recumbent posture; purgatives, and such other medicines as promote the secretions generally, should be administered, and the limb ought at the same time to be maintained in that position which will most facilitate the return of blood to the heart. If inflammation in a vein be allowed to go on unchecked it often leads to the effusion of coagulable lymph, causing adhesion of the sides of the vessel, and the consequent obliteration of its canal, a considerable extent of which may be thus rendered incapable of carrying on the circulation.

The secretion of pus sometimes follows upon inflammation in a vein: the matter will then either be mixed with the circulating blood, or if the vein has become impervious from the adhesion of its sides, the pus will collect and form abscesses along the course of the vessel.

Inflammation of a vein frequently produces thickening of its coats, as well as the obliteration of its canal, and, in some instances, veins have been found resembling arteries in the thickness of their coats, and in remaining uncollapsed when cut transversely.

When the canal of a vein has been rendered impervious by the adhesion of its internal coat, the blood can only be conveyed to the heart by means of collateral circulation, and this appears to be carried on as completely in the venous as in the arterial system; for even after the obliteration of the largest veins the blood has continued to pass by anastomosing branches without interfering with any important function.

In the cases of obstructed venous circulation that come under the care of the surgeon, the disease is generally seated in the lower extremity, particularly in the veins of the left leg: this condition is attributed to the pressure of the sigmoid flexure of the colon upon the left iliac vein retarding the flow of blood to the cava; it hence arises that such purgatives as act upon the large intestines afford great relief at the commencement of the disease. In some cases I have punctured the diseased vein before the blood has become coagulated, and this treatment has produced considerable permanent benefit in one or two instances, but in others it appeared to hasten the obliteration of the vein, not by promoting coagulation of the blood, but by giving rise to adhesive inflammation. The cases which I have thus treated have been the result of a varicose condition of the vessel, and although the treatment seemed to be productive of advantage, it cannot be regarded as a means of permanently curing the disease; for even when the vein first affected is rendered impervious to the blood, the collateral branches become rapidly distended, and fall into the varicose condition.

In the examination after death of veins obliterated by inflammation, the internal coat is found much thickened, and the obliteration produced either by adhesion of its surfaces, or by the formation of a clot of blood, which becomes adherent to the internal coat: the largest veins of the body are subject to this disease, and instances are recorded of the obliteration of the superior and inferior cavæ, and the subclavian and iliac veins.

The obstruction is indicated by the venous congestion, and by the œdema of those parts of the body which should return their blood through these different channels.

Inflammation of the veins has been very appropriately termed *phlebitis*: it may either arise spontaneously, or be produced by external violence. M. Cruveilhier has further divided it into—phlebitis of the superficial veins, phlebitis of veins embedded in the substance of organs, and capillary phlebitis; it is also again subdivided into adhesive phlebitis, where coagulable lymph alone is formed, and suppurative phlebitis, where matter is generated,—and the mixing of the latter with the circulating blood may produce the most violent constitutional symptoms, causing abscesses to form in different parts of the body, and generally terminating fatally. As this acute kind of phlebitis often follows abscess, it is believed by some that the pus is absorbed by the veins; but as pus is not unfrequently found present in venous blood without any abscess having formed, I am induced to believe that pus is secreted by the vasa vasorum or capillaries of the veins themselves; this view is not indeed inconsistent with the existence of abscess, as the pus may lead to irritation of the capillaries of the vein, and produce that condition of inflammation necessary to purulent secretion; for how often do we have large abscesses in the neighbourhood of veins without giving rise to any of the symptoms of phlebitis. Whether the phlebitis be the result, however, of wound, of direct absorption, or of imbibition, the phenomena are similar to those that occur when other tissues of the body are attacked by disease; the termination of the attack being adhesive, suppurative, ulcerative, or gangrenous.

Phlebitis frequently results from venous inflammation following amputation, the application of a ligature, puncture or division of the vessel in inflammation of a surface in which the vein is involved. Sometimes the disease is limited to the vessel in which it is originally excited, at others it spreads through all the veins of the limb; but the danger seems to bear no sort of relation to the extent of the vessel implicated.

A very frequent cause of phlebitis is found in the punctured wounds accidentally inflicted in the dissecting-room: the disease is then supposed to arise from the absorption of a specific animal poison. I believe, however, that it is much more frequently the result of a previous constitutional deterioration than of the introduction of a virus; and I am confirmed in this view by the rapidity with which the local inflammation and consequent constitutional derangement follow the injury, while after the introduction of a virus, as in case of the bite of a rabid animal or venomous reptile, a certain time, termed the period of incubation, always elapses before the accession of inflammatory symptoms.

Mr. Arnott has stated that the secondary affection in phlebitis generally begins from two to ten days after the infliction of the injury which is the cause of the inflammation. The symptoms are, great restlessness and anxiety, prostration of strength, and depression of spirits, sense of weight at the præcordia, frequent moaning, and oppressed and hurried breathing. The pulse is rapid, and there is often sickness and vomiting, with severe rigors. There is much irritability, and anxiety of countenance, with a quick and wild look and manner; and when left to himself the patient is apt to mutter incoherently, but becomes clear and collected when directly addressed; the features are shrunk, and the skin yellow and sallow; effusion of pus and lymph frequently take place in situations distant from the original seat of injury; but the fatal termination of the attack usually happens under inflammation of the chest. Death is, at all events, always preceded by symptoms of extreme exhaustion, rapid pulse, dry brown or black tongue, teeth and lips covered with sordes, and low delirium.

Phlebitis, in its adhesive form, cannot be looked upon as a very dangerous disease; its effects seldom reach beyond the affected vein, which is gradually rendered impervious by the coagulation of the blood; adhesive phlebitis may, indeed, exist without causing any inconvenience to the patient, and the disease is at this stage quite within the control of medicine. If, however, phlebitis, in its first stage, be neglected, it passes into that termed the suppurative. According to M. Cruveilhier, the adhesive phlebitis is generally converted into the suppurative by some irritation of parts already in a state of inflammation: the first change that occurs is the deposit of matter which does not take place between the vein and the coagulum, but in the centre of the clot; and this pus ultimately becomes mingled with the blood, reacting powerfully upon that fluid. According to the same authority, pus, in its natural state, introduced into the blood, alters its consistency, clogs its course, gives it a tendency to co-

agulate, impedes its circulation in the capillary vessels, and causes inflammation to be set up in numerous points in the venous coat. Peculiar conditions of the atmosphere seem to act as an exciting cause of phlebitis, giving it almost the character of an epidemic. This appears to have been the case at the Hospital of the Hôtel Dieu, in Paris, in 1839, where almost every patient after bleeding in the arm was attacked by phlebitis: this is termed by M. Velpeau internal erysipelas; and certainly there appears to be a great analogy between these diseases; for at the period, and in the hospital above named, erysipelas superseded upon almost every operation, even of the most ordinary kind.

Ulceration of veins.—This disease is of rare occurrence, as the internal coat seems much more predisposed to the adhesive than to the ulcerative process, but in a protracted varicose condition producing a subacute inflammation of the vein, ulceration sometimes happens, and profuse hæmorrhages is the result; but in these cases there may still be a doubt, if the ulceration does not extend from without to within, not taking its commencement in the interior of the vein. In some instances, however, spots of ulceration have been found in the inside of veins, and probably the effusion of blood subcutaneously often results from this cause. Ulceration of a vein is not, however, attended by great constitutional disturbance, nor by any marked premonitory symptoms. No further treatment is requisite, therefore, beyond keeping the patient recumbent: the necessity for this is indicated by the sensation of uneasiness in the diseased vein while the person is kept erect, and if the limb were not kept raised, phlebitis would be very likely to follow.

With respect to the treatment of phlebitis there is considerable difficulty; for, notwithstanding the high degree of local action by which it is characterized, the constitutional symptoms so rapidly put on the typhoid character that depletion of any kind can only be employed with the utmost caution; promoting the secretions, therefore, and at the same time allaying irritation, is all that can be safely pursued. Calomel, antimony, and opium combined, seems to be the best remedy, particularly when assisted by a mixture of liq. ammon. acetatis, tinct. of hyoscy. and camphor mixture. The affected limb should be kept elevated, to facilitate the return of blood to the heart,—poultices and fomentations should be applied over the whole limb, and punctures made through the skin wherever it has become tense from effusion. As soon as the local irritation has been subdued by these means, bark and mineral acids, nutritious food, and porter, may be employed, and may be safely continued so long as the natural secretions are duly performed. M. Blandin has recommended the early application of leeches between the original point of inflammation to the first set of absorbent glands, with the view of preventing the formation of pus: I should, however, fear that the application of leeches would be dangerous, both from their depressing influence, and from their increasing the local tendency to inflammation; and if there be any analogy between phlebitis and erysipelas, the danger must be rendered still greater, and no surgeon would venture to apply leeches where there existed the least tendency to the erysipelatous inflammation.

Earthy deposits are not very frequent in the veins: they occur, however, sometimes, and are called phlebolites: they have been found in the vena cava and saphena major veins: they are sometimes loose, and Mr. Langstaff met with three calculi loose in the veins of the uterus. Morbid growths are occasionally discovered in the interior of the veins: they occur most frequently, I believe, when malignant disease exists in close proximity to a vein.

Varicose veins.—The veins are liable to become permanently dilated, either in limited portions of their length, or throughout the principal part of their course,—a condition which is generally attended by an accumulation of grumous blood, and sometimes by a degree of interruption to the circulation. This state of a vein is termed varix. Varicose veins not only become increased in their calibre, but they are also considerably elongated, and very tortuous in their course; often, indeed, being so coiled and irregular as to constitute distinct tumors.

This varicose condition of a vein is sometimes called hypertrophy; but a distinction ought to be made between mere hypertrophy and varix. Hypertrophy of a vein occurs where an excess of nutrition, either normal or morbid, is carried on in the part, the vein becoming thickened in its coats, enlarged in its calibre, and much elongated; but the integrity of the coat is preserved; the dilatation is uniform, and the circulation consequently unimpeded. If, on the other hand, a change occurs in the state of the venous coats at any point, a kind of pouch may be formed; the blood will have a tendency to coagulate at that spot; there will be a deposit of fibrin, and a species of tumor very analogous to aneurism in an artery is produced. Varices are most frequently found in the veins of the lower extremities, sometimes extending to the veins of the abdomen, and they have been known to occur in the upper extremities. The vena cava, vena azygos, and, indeed, all the great veins, have been met with in a varicose state; but

the vessels ordinarily subject to the disease are the venæ saphenæ and hæmorrhoidal veins.

The varicose condition usually advances very slowly, causing at first no inconvenience to the patient: after a time, however, the veins become gradually more and more distended, particularly if the limb be much exercised; they also become more tortuous and knotted, and a dull heavy pain and numbness is complained of throughout the whole of the diseased part. As the disorder progresses, the limb begins to swell and become œdematous,—a condition almost invariably concomitant with long-existing varix.

Varices sometimes undergo a spontaneous cure, owing to coagulation of the blood taking place to a sufficient extent to plug up the canal of the vessel, and cause its complete obliteration. The vessel then becomes hard and incompressible, and is reduced to the condition of a mere cord, the circulation being carried on by collateral venous branches. The clot may sometimes act on an already inflamed vein as an extraneous body, producing ulceration, which not only destroys the coats of the vessel, but may extend to the surface. Hæmorrhage seldom, however, occurs as the result of this action, for the vein is generally previously obliterated. This ulcer is, however, very difficult to heal, owing to the œdematous state of the limb. The cause of the varicose state is but little understood, but is generally supposed to proceed from some obstruction interfering with the reflux of the blood. The elongation and tortuosity acquired by the dilated vein appear to be a provision of nature to compensate for the want of the natural action of the valves; for it is evident that when portions of the vein are brought into the horizontal position, the column of blood is broken, and the pressure rendered considerably less than if the whole were retained in a vertical direction. The rupture of the valves may no doubt in some cases prove the cause of varix, from the presence of the entire column of blood being left dependent wholly on the coats of the vessel.

We are not acquainted with any certain mode of curing this disease. Gentle and graduated compression seems to be the most effective means of checking the progress of the disease, and relieving the œdematous swelling attendant on it; but frequently, as soon as the compression is removed, the varices again make their appearance, and the pain and œdema return to as great an extent as before the bandages were applied. If nature has obliterated the diseased vein by the coagulation of its blood, and by the subsequent adhesion of its coats, there is nothing left for the surgeon to do but to support by gentle bandaging the collateral veins, to keep the bowels open, to recommend the patient to abstain from any violent degree of exertion of the limb, and to maintain the recumbent posture as much as his ordinary avocation will admit. Laced stockings of various kinds have been invented for the purpose of maintaining as much as possible the due degree of pressure in the diseased vein; but of late years an elastic stocking has been introduced, which is much more effectual, not only from the facility of their application, but from the equable pressure they exert. However strictly such a plan may be adhered to, it rarely proves more than palliative, for the altered structure in the veins seems to be irremediable; still, however, such a degree of comparative comfort may be secured as to render it quite a sufficient compensation for the trouble and inconvenience it entails. When the blood remains fluid, and the great distension of the veins forms the prominent feature of the disease, with alteration of the nutrition of the limb, and when purging, pressure, and recumbent posture, gives no relief, surgery affords to some extent the means of producing that coagulation of the blood in the diseased vessels which nature herself at other times is competent to effect. For this purpose, potassa fusa, nitrate of silver, ligatures, incisions, and other means, have been adopted for the purpose of leading to obliteration; but, as far as my experience has taught me, I have seen but little benefit derived even where the coagulation of the blood has been effected by the treatment, as the collateral venous branches are very liable to become affected by the same disease, and thus the malady is rather increased than diminished: indeed, more than this is to be feared, — viz. that the inflammation may extend itself beyond the degree intended; that purulent phlebitis may follow, and the life of the patient fall a sacrifice.

Many surgeons repudiate the dread of applying ligatures to veins, and maintain their view by exemplifying the frequency with which veins are tied after amputations without any bad result. The answer to such an argument seems to me obvious. After amputation, the ligature is applied to a truncated vein, and therefore the vessel is not subject to the irritating influence of a refluent current, as is the case when the ligature is applied to a varicose vessel; but even in the former case, instances are known of phlebitis following the application of the ligature; and surgeons rarely have recourse to this practice; nor, indeed, can I believe it ever necessary; for even after amputation, if the venous hæmorrhage be troublesome after the artery has been tied, I have always found the removal of the tourniquet,

the application of cold water to the stump, and the gentle pressure of a bandage, sufficient to check bleeding. The following case exemplifies the danger of surgical interference with varicose veins:—Last winter, a patient was admitted into Stephen's ward with a large varix of the saphena major on the inner side of the left knee: as the tumor was frequently chafed in working, the patient was anxious to have it removed; and, as no pervious vein could be traced either to or from it, I prepared the patient for the operation, and extirpated the tumor. No venous hæmorrhage resulted from the operation: a splint was placed behind the joint, to maintain a perfect state of quietude of the wound, and saline medicines, with narcotics, were prescribed. For a week the patient went on remarkably well: a blush of inflammation was then observed upon the inner side of the thigh: leeches and fomentations were ordered, but still all the symptoms of aggravated phlebitis supervened, and the patient died. I once removed a large tumor from the popliteal region of a surgeon, at Hazelmere, and, during the extirpation of the swelling, wounded the saphena major vein, which ran through the substance of the tumor: I applied a ligature below the opening, and in this case no bad symptom followed; but still I believe this practice to be dangerous, and I should now, under similar circumstances, try pressure, recumbent posture, and compression, as the means of stopping the venous hæmorrhage.

In cases of varicose veins, where the distension has been very great, and the skin has threatened ulceration from the tension, I have sometimes opened the vessel and abstracted a considerable quantity of blood; and, indeed, it has in such cases surprised me to find the amount of blood which may be withdrawn without producing any constitutional effect, leading me to the belief that in aggravated cases of this disease the blood contained within these veins is, to a certain extent, thrown out of the general mass of the circulating blood, and retained in a half stagnant state within them.

The opening of the vein is frequently followed by the obliteration of the vessel, and in some cases seems to afford the desired relief; but yet, as I have before said, it much more frequently occurs that several of the collateral branches become the subject of a similar disease, so that the malady is rather increased than diminished.

Should an exostosis, or tumor of any kind, be the cause of interruption of the current of the blood through a vein, producing a varicose condition, nothing but the extirpation of the tumor will lead to the removal of the affection of the veins.

Original Communications.

QUERIES IN MEDICAL ETHICS.

By W. Fraser, Esq. M.R.C.S.E.

(*Read before the Medico-Chirurgical Society of Aberdeen, 5th April*, 1849.)

The following queries, which bear reference to certain points of a practical character in medical ethics, were noted down at different times, as the circumstances giving rise to them occurred. These circumstances, which were such as must have frequently happened to every member of the Society, have in no instance left any unfriendly personal feeling in my mind, but rather the reverse. I am far from thinking that I have in every case given the proper solution to the queries, or satisfactorily set at rest the difficulties that have been stated: indeed, I fear that in many instances I have done little beyond opening up the subject for discussion. They are brought forward chiefly for the sake of eliciting information, and of directing attention (more particularly that of the younger brethren) to the consideration of those principles by which our conduct towards each other, as well as to our patients and the public, should be governed.

With your permission, I shall first read the queries, and then, when the opinions of the Society upon the different topics have been expressed, the answers which I have ventured to offer for your consideration.*

Query 1.—If a patient wishes you to call into consultation a medical man, of whose qualifications in the circumstances of the case you may have an unfavourable opinion, is it proper or honourable to decline doing so, or to endeavour to alter the opinion of your patient?

Ans.—If your patient expresses a very decided wish to have a particular person called in, you ought to acquiesce, provided there be no profes-

* Although the answers given in this paper were not, of course, endorsed as correct by the Society as a body, yet it may be stated with perfect truth that they expressed as n arly as possible the views that seemed, in general, to be entertained on the points to which they refer.

sional stain on his character sufficient to warrant you to decline doing so. His being junior to yourself, either in age or professional capacity, is certainly no sufficient reason.

Query 2.—If, on being sent for by a patient, you find that he has been under the charge of another, who, from some reason or another, has discontinued his attendance, although it was still desired by the patient, is it proper in you to take charge of the case, or ought you previously to communicate with the other medical attendant?

Ans.—You should advise the patient to let his former attendant understand that he wishes his services continued, and if the latter decline to continue them, there is nothing to prevent you from taking charge of the case.

Query 3.—Is it right in public medical teachers, and more particularly professors, and others paid from the public funds, to enter into contracts to give their professional services to public bodies at a reduced rate—in fact, to undersell those who buy their medical knowledge from them? To compare their conduct with a strictly analogous case in common business: when a wholesale merchant begins to retail the articles in which he deals at a lower rate than the dealers he supplies can afford to sell them at, what is thought of his conduct, and how is it generally met by his brethren in trade?

Ans.—The terms in which this query is couched render any answer almost unnecessary.

Query 4.—When a medical man is called into consultation by another, and supposing they entertain a difference of opinion as to the nature of the case,—a difference, however, which does not prevent them from co-operating in its future management,—is either of them justified in giving an unfavourable impression of the practice of the other to the patient or his friends, or to any other person?

Ans.—No.

Query 5.—When a medical man's advice is asked by a person whom he knows or suspects to be at the time attended by another, what is the proper course for him to pursue?

Ans.—He should do as he would be done by, and not encourage any such application; but rather by his answer endeavour to strengthen the person's confidence in his medical attendant.

Query 6.—When a medical man has a near relative residing at a distance dangerously ill, and when friends have written to him describing the condition of the patient and treatment pursued, and wishing his opinion and advice, what course should he adopt? should he address himself to the friends or to the practitioner in attendance?

Ans.—To the latter unquestionably.

Query 7.—If, during your attendance on a case, another medical man should, without your own or the patient's consent being asked, be called in, and that not by the party who employed you in the first instance, what is the proper conduct to pursue?

Ans.—I think to decline meeting with him till the wish of your patient and employer be ascertained.

Query 8.—When a medical man called, during the progress of a case, into consultation with another practitioner, persists, without any expressed wish on the part of the patient or friends, in continuing his services after the danger is over, and when the person first in attendance thinks his further assistance both unnecessary and inconvenient—what is the proper resource for the latter?

Ans.—The most effectual hint would be paying him his fee; but if he declare the case to be still in need of his attendance, you can have no resource without coming to a rupture with him.

Query 9.—When a medical man is called to a case on an emergency, during the absence of the practitioner in attendance—what is the proper etiquette to be observed by the two?

Ans.—The person called in should do what is *necessary* in the urgency of the case, and nothing more; nor should he repeat his visit. He might write a note to the regular attendant, if he thinks it necessary, explaining what has been done. The ordinary attendant, on the other hand, should not neglect to thank the other, either verbally or by letter, for his assistance; and, moreover, if this has been of great consequence, and the patient's circumstances are such as to justify it, he should advise the latter to send him a suitable fee.

Query 10.—When a medical man, on proceeding to a case to which he had been summoned, but had been

unable to give prompt attendance, finds that another had been sent for, and had already prescribed—what should be done?

Ans.—Simply make his bow and retire, if the parties should be strangers to him; or, if they are intimate friends, or the case that of a previous patient, and they express a very decided wish to retain his attendance in preference to that of the other,—he should recommend them to settle on friendly terms with the latter, and afterwards send to himself a message to renew his attendance.

Query 11.—When a patient labouring under a complaint tending, if the proper means are not used, to a fatal termination, calmly and deliberately tells you that he does not wish his life protracted—what duty remains for you?

Ans.—To endeavour, in the first place, to bring him to a more hopeful and healthy frame of mind; and, whether you succeed in this or not, to tell him that so long as you continue in attendance, you must and will use the proper means for his recovery. The friends, at the same time, should, with due discrimination, be made aware of the state of matters.

Query 12.—When a patient, feeling that his end is come, tells you calmly and decidedly that he wishes to die in peace, and to discontinue any further use of the means of recovery—what course remains for you?

Ans.—Simply to acquiesce, with the concurrence of the friends, and if you believe that the patient's presentiments are well founded. This I believe to be no uncommon occurrence, particularly in the instances of sagacious and strong-minded persons. Mr. O'Connell's last illness might be mentioned as an example. The Rev. W. Simeon, of Cambridge, "when he had determined no longer to use any of the means which had been resorted to in the hope of prolonging his life" (feeling they were become profitless), said to his nurse, "you cannot but say that up to this time I have submitted patiently, willingly, and cheerfully, to every wish of Dr. Haviland; I have not made one objection, have I?" He then added—"I did it all for the Lord's sake; because, if it had been his will to prolong my life, I was willing to use any means; but now I feel (and he said this with great emphasis) *that the decree is gone forth—from this hour I am a dying man.* I will now wait patiently for my dismission. All that could possibly be done for me, *has* been done: of that I am fully persuaded and satisfied: tell Dr. Haviland so." And after this he took no more medicine. Nearly similar was the conduct of Dr. Johnson on *his* death-bed, which was more remarkable, considering that he was all his life-time tormented with the fear of death. Boswell describes the circumstances as follows:—"Johnson, with that native fortitude which, amidst all his bodily distress and mental suffering, never forsook him, asked Dr. Brocklesby, as a man in whom he had confidence, to tell him plainly whether he could recover. 'Give me,' said he, 'a direct answer.' The doctor having first asked him if he could bear the whole truth which way soever it might lead, and being answered that he could, declared that in his opinion he could not recover without a miracle. 'Then,' said Johnson, 'I will take no more physic, not even my opiates; for I have prayed that I may render up my soul to God unclouded.' In this resolution he persevered, and at the same time used only the weakest kinds of sustenance. Being pressed by Mr. Windham to take somewhat more generous nourishment, lest too low a diet should have the very effect which he dreaded, by debilitating his mind, he said, 'I will take anything but inebriating sustenance.'"*

Query 13.—When a junior member of a family applies to you, and states that he does so in consequence of having lost confidence in the family medical attendant—what is your proper course?

Ans.—If the applicant be arrived at years of discretion, and if the complaint be such as not to confine him to the house, or to obtrude itself upon the notice of the rest of the family, you should prescribe, and do what is necessary in the circumstances. If the patient has not come to the years of discretion, or if the complaint be such that it must of necessity, or may by probability, confine him to the house, or come to the knowledge of his family, you should decline taking charge of the case till he has communicated with

* Boswell's Life of Johnson, p. 617.

his parents or guardian, and obtained their sanction for your attendance. Before undertaking the case, however, you should endeavour to reconcile the patient to his ordinary attendant, by removing any prejudice or misconception he may be labouring under; although, when the objection is simply a decided want of confidence, no arguments that you can use will probably be of much avail.

Query 14.—Is a medical man to consider himself bound in honour to conceal from the demands of justice, information that has come to his knowledge through the necessary and unavoidable divulgements of professional intercourse, when such testimony might prove detrimental to his patient?

Ans.—He is bound by law to forward the ends of justice, and as an honest man and a good citizen he cannot and will not try to do otherwise. However, he should use his own discretion in cautioning his patient and the friends against imparting or exposing anything that could be turned to the party's disadvantage, and he should show no inquisitiveness beyond what is absolutely necessary towards the proper discharge of his professional duties. The Roman Catholic priest enjoys in this respect, by the established law of custom I suppose, an advantage over the medical man; and very properly, for otherwise one of the most important rites of that religion would be rendered perfectly nugatory.

Query 15.—Is it proper in a medical man to attend his own wife in her confinement?

Ans.—Perfectly proper, provided he is accustomed to this branch of the profession, and she and her friends have confidence in him: but if there be anything unnatural and difficult in the case, he should at once take assistance; or, if his feelings interfere with the proper treatment of it, he should leave it entirely in the hands of another. Such a course will, in the event of a fatal termination, prevent malicious remarks, or even judicial interference, and save the practitioner and the friends from subsequent regrets.

Query 16.—When sent for, in an emergency, to a midwifery case, in the absence of the practitioner whose attendance had been pre-engaged; and supposing him at last to arrive when the case is occupying your most serious attention, or even receiving your manual or mechanical interference—what is the proper etiquette to be followed?

Ans.—To resign the case at once into his hands—or, at all events, as soon as safely practicable, after explaining the state of matters to him, and obtaining, or taking for granted, the patient's consent to the transference. If your further assistance is wished by the practitioner who was pre-engaged, or by the patient with his consent, which it would probably be if the case were one of difficulty or danger, then you ought to remain. As to the remuneration, the answer would be as in Query 9.

Query 17.—Do the prescriptions of a medical man belong to the patient or to the prescriber?

Ans.—The prescriptions written by a medical man are the property of his patients; and I do not think that the former is justified, under any circumstances, in taking away or destroying them. If he should do so, patients will be apt to suspect some sinister motive,—most probably a wish to conceal his malpraxis, or else to deprive them of the means of treating themselves in any subsequent similar attack. If you find that a patient is at a loss to distinguish between one prescription and another, and is apt to make mistakes in sending to the druggist for his medicines, you might, with perfect propriety, select from among his recipes the old and disused ones, and tell him to lay these aside, or destroy them, in order to prevent mistakes; but you have no right, even in the case of a gratuitous patient, to recal or destroy a single prescription that has once passed your hand and been used by the patient. I would much rather run the risk of having my practice criticised by my brethren (believing, as I do, that no honourable man, or one who could have much influence with a well-principled patient, would take any unfair advantage), than give my client or his friends any reason to suspect that I wished to conceal or misrepresent the treatment that had been pursued. I have known instances of persons venting the most bitter, though, I believe, undeserved reflections, on a medical man's treatment of their deceased relative, simply because he had asked for and destroyed

the prescriptions after his patient's death.

Query 18.—In the case of an accident involving responsibility on the part of any one, whether has the sufferer, or the person whose responsibility is compromised, the right to appoint the medical attendant?

Ans.—The patient himself or his friends, I think, have the prior right (whether they choose to exercise it in the first instance or not), as no consideration can be held to outweigh a man's interest in his own life and health; but the other likewise has a right to satisfy himself as to the competency of the attendance and skill which are bestowed on the case; and, whether he has any doubts on these points or not, may, for his own satisfaction, associate another along with the patient's own medical attendant: and of course it is the duty and policy of both the gentlemen to act in harmony for their patient's recovery, and, at the same time, to look after their respective client's interests. In the question of remuneration, there is more of law than of medical ethics involved. Of course, if the party whose responsibility is at stake appoint a medical man to attend, it falls to him to pay the latter under any circumstances. In a case where the responsibility or liability is disputed, either in whole or in part, this only affects the principals concerned in the dispute, which, if they cannot compromise it, must be settled by a legal tribunal; but, whatever be the issue, the medical man cannot be cut out of his fee if the party who employed him is able to pay it. A medical man chosen by the patient to treat this particular case, even though his own ordinary attendant, if he undertakes it without the concurrence and authority of the party supposed to be responsible, can have no direct recourse against that party, nor against any one except the patient or person who employed him. The latter is bound to pay in the first instance, having his action against the party presumed to be responsible for the amount of the medical man's charge.

Query 19.—To what extent has the medical man the right to interfere in the selection of a druggist to supply the medicines he prescribes?

Ans.—Under ordinary circumstances, he has no right to dictate to his patients as to the druggist they should employ; but in justice to them, as well as to his own reputation, he is bound to see that the quality of the medicines they get is good; and when he is not in the knowledge that they employ a druggist in whom he has reason to place confidence, and more particularly if he find that the indication he had in view has not been fulfilled by the medicine prescribed, he should ask for the bottle, &c., on which, of course, the druggist's name is labelled, the contents of which he should taste or examine, though not with any appearance of suspicion, but simply as a matter of course. If he find good reason to suspect any mistake in the dispensing, or anything improper in the quality of the medicine, the more prudent course is to call on the druggist, who cannot, if treated with proper courtesy and delicacy, object to afford any explanation that may be necessary, or to submit any part of his stock of drugs to the practitioner's examination that he may wish. When asked to whom the prescriptions are to be sent, which he will frequently be, the practitioner should say, "to any respectable druggist;" or he may mention the names of a few that he knows to be trustworthy, leaving the patient to make his choice. But if the practitioner is convinced by experience that any druggist does not keep his medicines of the standard strength, or otherwise does injustice to those who employ him, he is warranted —nay, he is bound, both in justice to himself and to his patients—to see that the latter do not put themselves within such a person's power.

Query 20.—In cases where, from confirmed structural change of organs, or from other causes, he may have reason to suspect that no *remedial* treatment will be successful,—what is the proper course for the medical man who may be called in to pursue?

Ans.—An honest and straightforward one in this, as in every other instance. His prognosis, of course, if the circumstances demand it, should be guarded, and perhaps even not hazarded without further medical consultation; and although his conduct must, to some extent, be guided by the character and views of his patient and friends, he should much rather sacri-

fice his own employment in the case than be induced to add to the evil that has already come upon his patient by injudicious attempts at restoration, where palliation only may be practicable. Writing on the medical treatment of old age, Dr. Holland says—"The first practical conclusion which the prudent physician will draw from his knowledge here is, in some sort, a negative one—viz. not to interfere, or, if at all, with care and limitation—in those cases where changes irretrievable in their nature have occurred in any organ or function of the body. To urge medical treatment in face of distinct proof to this effect, is to sacrifice at once the good faith and usefulness of the profession. This is a point the most needful to be kept in mind, as the patient himself and those around him are rarely able or willing to recognize it. It is often an exceedingly nice question of conscience, as well as of opinion, to define the extent to which practice may rightly proceed in such instances; always admitting, as must be done, that something is due to the feelings of the patient,—something also to the uncertainty of our own judgment, antecedently to actual experience. This question in medical morals, like so many others, cannot be treated as a general principle only. The integrity and discretion of the practitioner must ever be appealed to for guidance in the endless variety of particular cases. In some, concession to a certain extent is safe, or even justified by indirect advantage to the patient. In others, mischief alone can arise from this meddling with the course of nature, and bad faith or bad judgment are involved in every such act of practice."*

Query 21.—If it should come to the knowledge of a medical man that a case under the management of some other person is evidently misunderstood, and must soon terminate fatally if the proper treatment is not adopted—is he at all justified in interfering; and if so, in what manner and to what extent?

Ans.—In this delicate and disagreeable position in which the medical man may by possibility find himself placed, the utmost caution and good faith are necessary. As a general rule, he should altogether discountenance what is a too common practice among the ill-informed and lower classes,—that gossiping criticism to which the practice of medical men is subjected; especially knowing, as he must do, the difficulty that even a medical man has of forming an opinion from second-hand information: but there may be circumstances in which he cannot avoid listening to the appeals that may be made to him. "When artful ignorance," says Dr. Percival, "grossly imposes on credulity; when neglect puts to hazard an important life, or rashness threatens it with still more imminent danger,—a medical neighbour, friend, or relative, apprised of such facts will justly regard his interference as a duty. But he ought to be careful that the information on which he acts is well founded; that his motives are pure and honourable; and that his judgment of the measures pursued is built on experience and practical knowledge,—not on speculative or theoretical differences of opinion. The particular circumstances of the case will suggest the most proper mode of conduct. In general, however, a personal and confidential application to the gentleman of the faculty concerned should be the first step taken, and afterwards, *if necessary*, the transaction may be communicated to the patient or his family."* In opposition to this view of Dr. Percival's, a friend to whom I yesterday showed these Queries remarks—"I really cannot see the propriety of assuming that, in any instance whatever, where he is not professionally consulted by friend or legal authority,—and that on distinct grounds, and for a special purpose, such as shall free him from censure as a meddler,—a practitioner may or ought to give judgment regarding the treatment pursued (however bad or dangerous) by another member of the profession, as to which treatment he must be (*ex hypothesi*) imperfectly informed. Observe for a moment: he goes on hearsay only, no sufficient evidence being afforded to warrant an opinion; moreover, though the *reporters* may be conscientious, and mean well, they may at the same time be either ignorant or mistaken, and so unwittingly lead astray. In my view, a physician, *as such*, has no more title

* Notes and Reflections, p. 275.

* Medical Ethics, p. 32.

to become a public censor or reformer than what may be claimed by any other member of society; and that office, if assumed by him spontaneously, will almost infallibly be regarded with a suspicion of self-conceit, which (except under very peculiar circumstances) a right-minded man would avoid, as calculated to injure his character and impair his usefulness."

Query 22.—Is it proper—and if so, under what circumstances—in a medical man to visit a patient or acquaintance who has taken the benefit of a hospital or other public medical institution, and is under the treatment of its officers?

Ans.—Of course not as his medical adviser; but he is not, from the fact of belonging to the profession, to forego the privilege of visiting his friend or acquaintance, or former patient, when such visit had been desired or requested by the latter, or perhaps even made a condition of his going to the institution. Out of courtesy, however, to the medical attendants of the institution, if he cannot find it convenient to go while they are there, he ought to call on the resident surgeon, and request him to visit the patient along with him; and he should scrupulously abstain from any remarks calculated to diminish the patient's confidence in the professional attendance and general treatment he receives. The medical attendant of the institution cannot object to such a visit if he should become aware of it, when made at the wish of the patient or those interested in him; and although he is not bound to consult with the previous attendant, common courtesy, and a desire to gratify his patient's wishes, and to promote his recovery, which is of course the main object of the institution, should induce him, particularly in a case of difficulty or danger, rather to encourage than avoid an interchange of views and information on the subject with the former attendant. The gentleman I before alluded to, in reference to this query, in which he seems rather to have mistaken my drift, remarks:—"This is all *plane sailing*—the term meaning that the earth is supposed to be so, which it is not, as every body knows; and this leads me to remark, that perhaps the answer supposes too much—namely, that the visiting practitioner will reckon it prudent, comfortable, and dignified to look in without not merely permission but express invitation, on the very ground that his aid is held of value by the functionary. I, for one, would not advise taking the chance of those inequalities and asperities by which this medical world of ours is characterised; although, when in charge of a public hospital myself, I manifested what I felt—great pleasure in receiving visitors of the kind, and taking advantage of all the help they could give." The query, though put in general terms, alludes more particularly to an occasional occurrence which we must have all met with. A poor patient that you are called to see is placed in such circumstances that his removal to the hospital offers the only prospect of his obtaining the means that are essential to his cure—in fact, affords the only chance of his recovery. He refuses to go to it, probably from some preconceived prejudice, and is perhaps in such a state as to be inaccessible to argument. But he at last gives his consent on the condition that *you will call and see him after he is put in.* There are few medical men, I think, who would not comply with the request under these circumstances, and who would not also honourably keep their promise by making at least one call under the restrictions and conditions previously described.

[To be continued.]

ANNUAL REPORT OF THE SICK OF THE TROOPS AT ST. VINCENT,

From 1*st April*, 1848, *to* 31*st March*, 1849.

By R. H. A. Hunter,
Staff-Surgeon.

Topographical description of station.—St. Vincent,—latitude, 13° 9′ north; longitude, 61° 15′ west,—one of the most healthy of the Carribean group, may be described to be an irregular mountainous chain, running nearly north and south with numerous offsets, separated by ravines, opening up into narrow vallies, and clothed where uncultivated with the usual verdant and luxuriant vegetation of a tropical climate. The capital—Kingston—is situated near the southern extremity of

the island, at the bottom of a small sandy shored bay, bounded by rocky promontories, the south-eastern of which is low, narrow, and pointed, usually covered with sugar-cane; the other, ragged, steep, and jungly, much cut by ravines, and terminating rather abruptly in a high rocky hill. On the summit of this last, Fort Charlotte is built, where the European troops are located; and on a small narrow offshot, a spur from its lower third, called "Old Woman's Point," the proper boundary of the bay, the General Detachment Hospital, and lines of the coloured troops or military labourers. Both these places are very confined as well as difficult of access. Fort Charlotte is 700 feet above the level of the sea, and "Old Woman's Point," almost directly under it, 250.

Geological formation.—Of the geological formation of this hill or promontary, we may say its base consists of deep beds or rather strata of Puzzalana of various degrees of hardness, from a concretionary earth to a drab-coloured looking sandstone, covered by basalt, serpentine, or a variety of hard fragmentary rocks, concrete ashes, scoria, and rubble, all broken, contorted, or abutting, even to the very summit, immediately upon which the citadel and barracks are built.

Climate.—This is cool for the latitude, and particularly the military posts, "Fort Charlotte," and "Old Woman's Point." These, from their position, however, are much exposed, and from being only a few miles to leeward of a high mountainous ridge, clothed to its summit with high trees and jungle, are subject to sudden gusts or squalls, often with heavy showers, all the year round. The extremes of the thermometer are about 75° and 85°; and the annual average of rain 70 inches. The rainy season continues nearly to the end of December. Earthquakes are frequent.

Average strength, &c., with detail of admissions and deaths.—The average strength for the year was 191,—to wit, 163 white, and 28 coloured,—all of the former in their first or second year in the West Indies; and the following were the changes which occurred in its composition. In May, the company of the 3rd W. I. regiment was withdrawn, and in February, a draft of 53 men joined direct from Cork.

TABLE No. I.—*Exhibiting the ratio of Admissions and Deaths, from the principal classes of diseases at St. Vincent (white troops), from 1st April, 1848, to 31st March, 1849, compared with the average of former years at the Station, and with that of the 57th regiment at Fort George, Madras, from 1st January to 31st December, 1844.*

	At St. Vincent, 1848-9.		At St. Vincent, 1826, 1848.		At Madras, 1844.	
Aggregate strength	163		6,768		1,004	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Consumption.....	—	6·1	—	9·9	—	—
Total pulmonic.....	321	—	150	—	127	—
Fevers endemic.....	221	—	194	4·7	187	—
,, epidemic.....	—	—	76	17·	—	—
Hepatic.....	—	—	12	1·	16	1·
Gastro enteritic	209	—	317	10·7	410	6·
Dyspeptic	650	—	—	—	243	—
Cholera	—	—	—	—	1	—
Cerebral.....	66	—	17	2·8	26	2·
Ophthalmic	76	—	195	—	13	—
Rheumatic.....	43	—	—	—	204	—
Venereal.....	141	—	—	—	145	—
All other diseases	597	—	391	1·7	402	1·
Total.....	2337	6·1	1352	47·8	1774	10·

Ratio per 1000 of strength.

No. 2.—*Table showing the ratio of Admissions and deaths per* 1000 *of strength annually; together with the proportion of Deaths to Treated of the principal classes of Diseases at St. Vincent, &c.*

	*At. St. Vincent for 23 years.			*At Madras about 15 years.			*At Bombay 3 years.			At Moulmein about 15 years.			At Secunderabad about 15 years.			*At Deesa 4 years.			At Trinchinoply about 15 years.			At Bellary about 18 years.		
Aggregate strength	6,922			10,423			2,389			11,435			10,234			3,300			11,038			10,232		
	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.	Admitted.	Died.	Died to Treated.
Consumption.....	—	10	—	—	2·8	—	—	3·7	†	—	†	—	—	†	—	—	2·4	—	—	—	—	—	—	—
Total pulmonic.....	147	—	—	—	—	—	—	—	—	—	—	—	—	—	—	119	—	—	—	—	—	—	—	—
Fevers, endemic.....	190	4·6	1–41	405	3.6	$\frac{1}{11\cdot2}$	†	3·7	—	398	7·2	1–55	731	11·8	1–62	810	11·8	1–69	369	4·4	1–84	524	8.4	1–62
" epidemic	74	16·6	1–4½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysenteric.....	310	10·1	1–31	264	14·7	1–18	†	7·5	—	176	16·9	1–10	282	36·3	1–8	309	10.	1–31	191	13·	1–15	168	8.8	1–19
Cholera	—	—	—	22	10.6	1–2	†	15·5	—	3	1·8	1–2	4	1·5	1–2½	8	4·2	1–2	19	7·3	1–2½	39	17·8	1–2
All other diseases	—	5·4	—	—	13·2	—	—	10·1	—	905	11.8	—	1220	21·8	—	827	12·1	—	1210	12·0	—	1463	16·2	—
Total.....	1323	46·7	—	2018	44·9	—	—	40·5	—	1482	37·7	—	2237	71·4	—	2073	40·5	—	1789	36·7	—	219	51·2	—

* Those marked with an asterisk we have ourselves been stationed at 1 to 4 years. Those marked † we have no notes for.

Of admissions there were 426, or about 2,231 per 1000 of strength; and of deaths 4, or 6·2 per 1000. This will be better shown, however, in the tabular form, where we can compare also with the average at the station generally, and with the last year of the 57th regiment at the Fort of St. George, Madras. To this we will add another table, exhibiting the ordinary ratio of deaths from fever at a number of stations in the East Indies, with a view to correct the erroneous notions entertained in some quarters of the particular success of either this or that mode of treatment.

Remarks as to the principal classes of diseases by which the sickness and mortality have been occasioned, compared also with former years.—The principal diseases by which sickness has been occasioned during the past year are these:—In the first quarter intermitting and remitting fevers, influenza in the third (first of a catarrhal, and subsequently of a more simple febrile character, denominated catarrhus acutus, and febris con. com. in the returns) bronchitis and phthisis, and during the last—or that from January to March—dysentery, and again fevers of the intermitting and remitting types. The second quarter—or that from July to September — was specially healthy. Compared with former years at the station, the most marked differences were the prevalence of influenza in the third quarter, dysentery in the fourth, and the all but total absence, except in the draft lately arrived at least, of muco-catarrhal ophthalmia. With respect to this last, however, there is reason to believe much of its prevalence is to be attributed (see last annual report) to the very unaccountable hostility evinced to the acknowledgment of contagion and infection as causes of disease. The charges are two small, perhaps, to give sufficient confidence against the dogma of the day; and in this we perceive the unfavourable position in which the medical officer in the West Indies is usually placed. But there are other circumstances—and these removeable—equally adverse to the progress of medicine,—I more particularly allude to the want of every means of mutual improvement: the medical officer in one island knows little more of what his compeer his doing in the next, than if he were an

inhabitant of Nova Zembla. A Medical Society, the patronage of Government in the way of circulating medical books and medical papers; and, above all, a small Medical Periodical, or even the circulation of the Annual Reports, could not fail to be attended with the greatest benefit. Were it only to bring all to use a similar vocabulary, some good would be obtained; for as it is it would be difficult to find out often what is meant by such words as these —contagion, infection, epidemic, endemic, sporadic, and local. As a specimen of the diction in use till lately at least, we may quote the following:—"*Epidemics.*—The *tropical remittent* fever prevailed in an *epidemic* form in this garrison in the month of February, March, and April last, and was at its height at the period when this report commences. As this *epidemic* appeared during the time the regiment was stationed here, I will merely quote the account of it. It seems to have presented the usual features of *that* disease, and the most important point to be noticed in regard to it is, the evident fact of its being perfectly *local* (it is stated to have been previously prevailing in Kingston and neighbourhood, but to have subsided on its appearance in garrison), confined to the garrison, and the troops becoming perfectly healthy so soon as they were removed from the *infected* spot." Of, course, we do not pretend to say what is the etymological import of these words; but, to prevent farther confusion, it may be as well to state what is implied in this report. By contagion, is meant a morbid animal aura or halitus, capable of propagating itself, under favourable circumstances, and in contra-distinction to infection; something visible and tangible, as lymph, pus, &c. By epidemic, wide spreading, but foreign, introduced from without, in contra-distinction to endemic, domestic, or from within. Sporadic, single and occasional, and local, confined to a particular locality, originating in, and peculiar to, that. But to return, we have already alluded to the strength as being too small for any useful deductions. It will, therefore, be necessary to take in the last 23 years at the station, which will give an aggregate strength of 6,922 (white troops).

The principal diseases by which the sickness—but especially the mortality —has been occasioned during this period are these:—Consumption, dysentery, and fever, to which ought to be added, perhaps, diseases of the brain. With regard to the first, consumption—and on a careful perusal of all the Reports, no other unequivocal fatal case of pulmonary disease is to be found—the ratio of mortality exceeds that of any other portion of Her Majesty's dominions, Barbadoes perhaps excepted, or other of the West India Islands, not yet sufficiently determined, being no less than about 10 per 1000 of strength annually (See Table, Section vi.) Nevertheless, curious enough, we not unfrequently meet with, or hear of, persons sent out here for consumption. Consumption in St. Vincent's, however, judging also from the reports, does not so frequently shew itself first in its pure form, evinced by cachexia, subclavian contraction, &c., as mixed with bronchitis, which seems gradually to localize itself in one or other of the subclavian or supra-scapular regions. From this cause many of them have originally been returned as bronchitis, or even as pneumonia; the fact of this last not being a tropical disease at ordinary elevations not being recognised. It is under catarrhus chronicus, bronchitis, and pneumonia, indeed, that phthisis is chiefly to be found. Hence the peculiarity of the tables in section vi. with pulmonary diseases, including simple catarrhs as a class in the column of admissions, the mortality under consumption.

Fever.—Of this there are at least two species at St. Vincent, perfectly distinct; the one an intermittent or remittent of Malarian origin; the other the true yellow fever, black vomit, or hæmagastric pestilence. The first is neither frequent or severe in garrison at least, amounting only to about 200 per 1000 of strength by the returns annually, and the mortality to 4·7, or 1 in every 40 or 50 treated. Last year there were a few cases in April and May, and again during the last quarter, but no deaths. The two worst we shall detail in section xi.; the one was very complicated, a compound of remitting fever, strumous dysentery, and strumous ophthalmia, with varicose, and at one time densely nebulous cornea: the other was an African, of the 3rd West India regiment; and what is perhaps

worthy of remark, of the two fatal cases the preceding year, one was of the same description of troops, though the strength scarcely amounted to a third of the European. In the circular of the 20th October last, allusion is made to the comparative immunity of the coloured troops from fever; but this must chiefly apply to yellow fever, for otherwise reduced to ratio per 1000 of strength, and proportion of treated, the advantage is by no means so conspicuous; in the latter at least. For, instance, as shewn in the table of that circular, taking the whole command, the white troops, including the yellow fever, lost only 1 in 24; whereas the coloured troops, without yellow fever—to which indeed they seemed scarcely to be subject—lost 1 in 34. Four of the deaths, it is true, are explained on the supposition that they may have died rather from other diseases; but as these are stated to have been cerebral and gastro-enteritic disorganizations, their source may be easily inferred. Indeed, we have elsewhere shewn (Bombay Medical and Physical Transactions, No. 5, and London Medical Gazette, No. 1 of 1847), the greater majority of these fevers prove fatal only through such complications. In the same circular mention is made of the marked success in the treatment of fever, at Demerara particularly, by quinine in large and repeated doses. From the first we suspected some mistake, knowing how very apt we all are to fancy that great city called Rome like our own little village, but were scarcely prepared for such conclusive evidence as is exhibited in the table. Three fatal cases in a strength of 191 (white troops), is fully 15 per 1000, about the highest we have ever known on the average (see Tables, section vi.); whilst 790 cases, or upwards of 4000 per 1000 of strength, is so far out of all proportion that we cannot but think most of them must have been of a very mild or ephemeral type. The highest we had ever reckoned, even at the worst stations for fever, was considerably under 1000 (see last annual report), and of such fevers, 1 death in 67 to 70 treated. But say 1000 per 1000 at Demerara, or 191 in a 191 of strength, and 3 deaths, and that will give 1 death in 62, or very much the same: indeed, we have often had to advert to the fact of the nearer correspondence with respect to all diseases reckoned by proportion of strength than of the number treated. (See also tables, section vi.)

Yellow fever.—But to return, we have shown, in last year's report, the other species, or hæmagastric pestilence, though only once in this garrison, and to a trifling extent, from 1822 (that is as far as the records extend) to 1839, was from that to 1844 not less than three or four times. Indeed, there is reason to believe it was never fairly out of the island during the whole of that period. Out of five regiments in succession in Fort Charlotte, the 70th, 52d, 92d, 33d, and 46th, only the 52d from Barbadoes escaped; and the 85th, which relieved the 46th, had suffered from it already the preceding year at St. Kitts. But its most fatal visitation was in 1839, with the 70th regiment. On this occasion it commenced in March, having for some months previously been in the town and neighbourhood, and by the middle of September had cut off one-fourth of the European troops in garrison: and what is worthy of remark, in the quarter from July to September, during which fifty-four of the white troops perished, of a strength scarcely exceeding 300, there were only five cases of fever altogether among the coloured, of a strength of fifty and upwards, and these are reported to have been of another type; nor was there a death in that class during the whole year: indeed, never do the coloured troops appear to have enjoyed a greater exemption from disease than when the white, their own officers included, were dying around them. It is this immunity from yellow fever, no doubt, which has caused the mistake of their comparative freedom from the fevers of the country generally. Doth Dr. Kemlo, surgeon of the 70th, and Dr. Breslin, of the 46th, would seem to have been ultimately alive to the contagious properties of the disease.

In the 92d, it broke out rather suddenly in December, 1841, having again previously been prevailing in Kingston, as also at Barbadoes, from whence three men of the Artillery are mentioned to have arrived at the time; so suddenly, indeed, that Staff-surgeon Hall states, that in less than a week fifty cases occurred, of a strength of 220; and farther, his belief that if they had not been instantly removed out to

camp it would have been through the whole in less than a month. Curious enough, though Staff-surgeon Hall is, perhaps, the only one of late years who has acted upon contagious principles consistently throughout, and not only so but has minutely detailed all circumstances favourable to such views, he has no where acknowledged his belief in them: on the contrary, though probably in irony, he says—"unless one take refuge under Dr. Parkin's theory of volcanic agency, as there was a smart shock of an earthquake about the middle of August, I do not know what to ascribe it to." Staff-surgeon Hall was also present with it in the 33d.

Yellow fever we next find in the 46th regiment in this garrison; and the following, with reference to it, we shall quote from Dr. Breslin's report, dated 31st March, 1844:—"When *remittent fever** prevailed extensively in Kingston, in the months of December and January, the troops in the garrison were healthy; but in the following month it commenced to show itself among the officers and men, and several of the worst cases had their origin in hospital, when under treatment for other diseases."

Comparative mortality.—On this occasion the 46th regiment lost 23 cases of fever, which, supposing all to have been yellow fever, multiplied by 4, would give 84 cases. The returns show 151 of fever, including the two official years, and the 23 deaths, or about 1 in 6½ treated; but from that must be deducted at all events the ordinary ratio of 200 per 1000 of strength for 220 men for two years in the admissions, and 5 per 1000 of strength for the deaths. This would give 88 cases and 21 deaths for yellow fever alone: but the former might be still further reduced by allowing for panic, and other diseases in the confusion superadded. Staff-surgeon Hall shows 50 cases of yellow fever and 12 deaths in 1842, or about 1 in 4. And the 70th regiment, in 1839, including *all fevers* treated in hospital, 370 and 75 deaths: from 370 again deduct the ordinary ratio for 334 men, 67, and we have still 1 in 4 as nearly as possible. We are very sure, however, on a careful review of the whole, that 1 in 3, or even more, is much nearer the truth. In 1839, there were 18 officers, 11 cases and 5 deaths, or nearly 1 in 2; and in that class the diagnosis would be more likely correct. This will be more evident, however, if we compare the mortality in the two classes according to strength:—officers 18, deaths 5, or 277 per 1000 of strength; men 334, deaths 80, including those of the end of March, as of the officers, or 239 per 1000, nearly the same.

Dysentery.—In the last annual report we noticed that dysentery and consumption were the most fatal diseases incident to the Island of St. Vincent; for though yellow fever, like plague and cholera, is far more destructive at the time, yet, from not being of ordinary occurrence, it does not show so much when spread over a number of years.

Of dysentery we have now for a long time recognised two distinct species: the one of malarian origin, either alone or as a sequel or complication of remitting fever; the other an idiopathic colitis from exposure to cold and wet, and generally confined to the rainy season. Of this last we have estimated a high ratio of mortality to the number treated; but fortunately the cases of the past year have been chiefly of the former species, and confined altogether to the last quarter, beginning immediately after the termination of the rainy season in the end of December. One of the worst has been already alluded to under remitting fever, but of late there have been two or three still more serious, in a dysenteric point of view, of the draft which joined from Ireland in February: these last, however, it may be presumed were originally contracted at sea.

Treatment.—With regard to the treatment of any of these diseases, it will be unnecessary to say anything. Indeed, we believe the direct road to sound practice is through minute and accurate diagnosis, and what may be called the pathological history of disease; that is, an exact knowledge of the disease to be treated, and of its natural progress to health or otherwise, when uninfluenced by the "diligentia medici." Were this path, indeed, more frequently followed, we should not so often meet with the false facts and de-

* "Remittent fever."—Yellow fever seldom appears in the returns under its true name: remittent, tropical remittent, or common continued, are the usual terms.—R. H. A. H.

ductions so constantly teeming from the medical press. That such was the path, however, of that excellent physician and medical philosopher, Celsus, we think may be inferred from one passage—"Utpote cum repugnante natura, nihil medicina proficiat." Neither will it be necessary to refer to the experiments detailed in the Quarterly Report of June last, on the Demerara mode of exhibiting quinine in fever, having already in this exposed the fallacy of the grounds upon which they were instituted. The mistake, no doubt, was occasioned by taking simply the returns, which usually include yellow fever, under the term febris remittens, instead of correcting them by the reports, which make the distinction. In yellow fever, the testimony of the last year at Barbadoes is conclusive against even quinine possessing any specific or sanative powers. Not that we would decry the value of quinine in fevers of the intermittiug and remitting types. Our reports, published in the Transactions of the Bombay Medical and Physical Society, will amply testify to the contrary. Latterly, too, we have used it much in malarian dysentery, seemingly with the very best effects; and last year, more of it was used in dysentery than in fever. In fact, half of the fever cases have been treated without it.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 27th inst.:—E. L. Neville—O. W. George—W. P. P. Mackesy—E. P. Leigh—E. J. Vivian—A. Rudge—W. A. Lewis—R. Adamson—J. H. Robotham—J. Sawyer—J. Earnshaw.

Admitted on the 30th inst.:—C. M. Meller—F. Bateman—T. K. White—T. L. Nash—T. Wilson—D. Morgan—J. Rorie—C. A. West—J. Wood—S. Plumbe—J. C. Blackford.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 26th of July, 1849:—Edward Jackson, Sheffield—Thomas Allen, London—Arthur Octavus Arden, Beverley, Yorkshire—Richard Eaton Rusher, Oxford—William Talbott King, Hackney—Joseph Barton Carter, Beverley, Yorkshire—Chas. James Evans, Belper—George Cochrane Millar—John Markwell Todd, New Cross Road, Deptford—Thomas English—John Harrison Robotham, Wilne, Derbyshire.

THE EFFECT OF

MALARIA UPON THE DIFFUSION OF DISEASE.*

BY T. OGIER WARD, M.D., OXON.

IN the Dublin Quarterly Journal for Feb., 1849, p. 29, Dr. Graves, in his paper on Asiatic Cholera, quotes the following sentence from the Evening Mail:—"Whatever usually causes a disposition to typhus fever, scarlet fever, and other epidemic diseases, will now produce cholera," and proceeds to state that this new theory of the *production* of infectious diseases from malaria has found adherents in the profession; and in support of this assertion, he quotes from the MEDICAL GAZETTE of Nov. 17th, 1848, a report of a statement made by myself at a meeting of the Westminster Medical Society, to the following affect:—"Dr. Ogier Ward referred to scarlatina as epidemic in Kensington and Fulham: he traced its prevalence to bad drainage; on improving this, the disease was mitigated, and then disappeared."

Now, as I was almost the first to point out the insufficient evidence upon which the present metropolitan Board of Health have concluded the cholera not to be contagious or infectious (I use these terms synonymously), which I did in a paper read to the Westminster Medical Society, in 1847, in which I illustrated the contagious nature of cholera by a comparison of its course and propagation with those of other diseases, infectious and non-infectious, endemic or epidemic, I feel it due to my character for consistency to show that Dr. Graves is in error in imputing to me the notion that what conduces to the *prevalence* of a disease is a cause of its *production*. My words, as stated by himself, will not bear out such an inference; and the distinction between the original source of a contagious disease, and the causes that contribute to extend its influence, is so obvious, and is so constantly acted on in our attempts to arrest its progress

* This paper was sent too late for insertion in the forthcoming number of the Dublin Journal, and has been returned by the editor, with an expression of regret from Dr. Graves, that he had misunderstood the report in the MEDICAL GAZETTE, as he now perceives that the views contained in this paper on the subject of contagion agree with his own.

by sanitary regulations, that I am surprised Dr. Graves should have committed such a mistake; for there is scarcely a complaint whose prevalence may not be increased by malaria, and diminished by precautionary measures, independently of any considerations of its contagious nature. Even during an influenza, the most perfect type of a non-contagious epidemic, an exposure to similar exciting causes will induce an attack, and avoidance of them will secure an immunity, as in ordinary catarrh. Indeed, for what other reasons are contagious epidemics less fatal, in proportion to the numbers affected, now than formerly, but that the benefits of pure air and cleanliness are better understood in the present day? And it is in consequence of the infrequency of the spreading of continued fevers, when under proper management in these respects, that many persons — and Mr. Grainger among the rest—have been led to deny that they are infectious.

But, as on the one hand free ventilation will so dilute the poison of an infectious disorder as to deprive it of its power of propagation under ordinary circumstances; so, on the other hand, an impure air will generate various diseases not infectious, and some that undoubtedly are so. Thus, Dr. Colles, I believe, has mentioned the prevalence of convulsions in new-born infants in badly-ventilated Irish lying-in hospitals, which entirely ceased under an improved system of management. Hospital gangrene, erysipelas, and perhaps dysentery, may be cited as instances of contagious diseases produced and propagated by impure air; and to what other cause can we attribute the disproportionate mortality among the unweaned infants of the poor, whose food and clothing are as warm and nutritious as those of the children of the wealthy of the same ages? Again, in the autumn of 1848, an epidemic of diarrhœa and English cholera prevailed in Kensington, and carried off nineteen children under five years of age; and upon examining the register of deaths, I found that the number from other diseases, as well as the two above mentioned, was in exact proportion to the want of drainage and filth of the various localities. Of the whole seventy-nine children under five years who died in Kensington in the course of three months, only three, to judge from the localities, were the children of persons in easy circumstances. The deaths, with these three exceptions, were confined to spots inhabited by the labouring class. The different causes of death were as follows:—Diarrhœa and English cholera 19; fits 8; hydrocephalus 12; pertussis 7; bronchitis and pneumonia 8; mesenteric disease 3; congestion (?) 3; struma 1; inanition 1; diseased lungs 1; disease of heart 1; intussusceptio 1; croup 1; dentition 1; anæmia 1; remittent fever 2; phthisis 4; enteritis 2; debility 2; jaundice 1. The three exceptional cases were fits, bronchitis, and hooping-cough. A large proportion of the other seventy-six deaths may, in all probability, have arisen from debility, in consequence of bad food, neglect, and other causes connected with the poverty of the parties; but making due allowance for these sources of disease, there is still left a very large number of deaths attributable to the effects of malaria; and this conclusion is borne out by the calculations of Mr. Farr, who has ascertained that the value of life in the labouring class in Kensington is thirty-six years, whereas in Bethnal Green it is only twenty-six years,—a difference that can only be ascribed to atmospheric influence, the food and clothing of the working classes being the same in every part of the metropolis. Though a firm believer in the origin of Asiatic cholera in this country exclusively from contagion, I have not a doubt that its extension depends, in a very great degree, upon those circumstances which have been considered by the Board of Health (erroneously in my opinion) to produce it. If it be not so, why should we observe its chief prevalence among the denizens of confined courts and alleys, while others, equally as poor, as ill-fed, and as dissipated, but living in open and better ventilated streets, entirely escape? During the present epidemic, all the persons, except three, who were attacked by cholera in Kensington, resided in the same locality, in which, from its filth, bad drainage, and overcrowded state, it was expected the disease would be severe long before it made its appearance; and under this impression some attempts were made to improve the place, but without benefit. In some

Observations on Cholera as it appeared in Wolverhampton in 1832, published in Vol. II. of the Provincial Medical Transactions, I remarked that all the instances of the disease attacking persons of the better class (among whom it was unusually fatal, destroying six out of nine patients) occurred in a wide street in the outskirts of the town, open on one side to the fields, but having the town sewer running at the back of the houses on the opposite side, and rendering them very offensive. No sooner, however, was the sewer cleansed, and the foul water allowed to run off quickly, instead of being pent up in cesspools, than the progress of the cholera was arrested in this quarter. In the rest of the town the most confined situations suffered the most; but in the neighbourhood of the collieries the disease spread itself from house to house irrespective of local circumstances. Another striking instance of the effect of the removal of malarious sources was shown in a row of twenty-three houses, inhabited by many families of dissolute character, among whom there were only two beds and one bedstead. Here the cholera was spreading with fearful rapidity, when it was almost entirely stopped by completely emptying the houses, exploding gunpowder in each room, and then whitewashing them with whiting and chloride of lime.

In the instance alluded to by Dr. Graves, the existence of scarlatina only is mentioned, but in fact there were two contagious diseases, small-pox and scarlatina, prevailing in the same situation, depending apparently upon the same malaria for their extension, and ceasing together upon the removal of its source.

The locality in question is three or four acres in extent: it consists of Portland Street, which is partly inclined and partly level, or rather hollow, the upper portion having houses on each side, the lower opening out into a kind of square on one side, and having detached cottages and a parish school and its play-ground on the other. The lower end of Portland Street runs into William Street, which is crossed on the other side of the play-ground by St. John's Place, a kind of mews full of manure heaps, and having an open sewer along that side where it bounds the play-ground. The nature of the ground on which the school and the detached cottages stand may be known by its name, the "Willows;" and separated from the willows by a wall, and the backs of the cottages, is a double row of cottages and small gardens, so shut in by other buildings as to well deserve the name of the "Bay," which it bears. Except the open sewer, which begins in the Bay, and a shallow one in William Street, there was no drain in the district; consequently many of those persons who had gardens had manure heaps for the solid refuse in front of their houses, while the slops, &c., were thrown out into the gardens, or into the street, as it might be. Portland Street was unpaved, and full of holes, into which the slops ran, till they filled them, and then, overflowing with every shower, the filthy fluid ran down the inclined part of the street till it lodged in the hollow at the bottom, forming a green stagnant pool of offensive matter, covering the whole roadway and part of the foot path for an extent of thirty yards opposite the detached cottages, and under the fence of the play-ground.

Into this district the small-pox was introduced, August 20th, 1847, by a child, who died the same day, at the upper part of Portland Street, and from thence it extended down on each side, but most severely in the open part, opposite the stagnant water. Within a few days the scarlatina also made its appearance in St. John's Place; and as most of the children attended the school, both complaints spread so rapidly among them that it was deemed prudent to close the school for a time. Many of the children who lived in streets and courts at a distance from the original foci of disease, conveyed the infection with them to their homes; but when thus removed from their sources both diseases seemed to be modified—the small-pox in its propagating power, and the scarlatina in its virulence. Of the former, only ten cases occurred out of the district, though two of them were fatal, and one of these had been vaccinated from the cow: another patient also had the small-pox severely. Of the scarlatina, twenty-two cases occurred out of the district, but all of them were of a very mild kind, except one in an unhealthy child, that proved fatal. The number within the district was very considerable, but not equal to that of the small-pox

cases, which amounted to thirty-eight, of whom seventeen had been vaccinated and twenty-one not. Of the vaccinated cases, all were mild; of the twenty-one unvaccinated, five died, twelve had the complaint severely, and four mildly.

In consequence of so much disease prevailing in this locality, an application was made to the parish authorities: the foul water was drained off by a deeper sewer in William Street, and another in Portland Street, the holes in which were filled up, and the lower part raised, so as to form a general slope with the upper part of the street. Immediately that these measures were taken, both complaints subsided, and shortly ceased entirely. While the stagnant water remained, the effluvium from it was so bad that the inhabitants around could not open their windows without annoyance.

Here we have two contagious diseases introduced into a locality about the same time, prevailing in an epidemic form under the influence of noisome exhalations, and ceasing with the removal of their source. No one doubts the highly infectious nature both of small-pox and scarlatina, and yet as little can we doubt the aid the malaria gave to their propagation. It is exactly identical with what we observe in the spread of cholera and typhus, and, I think, may be explained by a consideration of the nature of the morbific germs, and their action upon the human body.

In his Appendix to the Fifth Annual Report of the Registrar-General, Mr. Farr has proved beyond question that the cause of the unhealthiness and greater mortality of large towns is owing to a quantity of animal matter floating in the air, in part exhaled directly from the bodies of the inhabitants, or evaporated from the contents of the privies, grave-yards, sewers, and other deposits of decomposing organic substances. This effluvium, when re-absorbed by the lungs and skin, acts as a poison, and constitutes a universal source of diseases of all kinds, inasmuch as, by its depressing effects, it renders the body less able to resist the attack of any disease, whether infectious or not. Again, there are other emanations proceeding from persons affected by specific diseases, that have the power of producing similar complaints in the individuals exposed to their influence, provided that they have never suffered from a previous attack of the same kind; and, from the analogy that exists between these miasms and the principle of fermentation, Mr. Farr has applied to them the term zymotic. Neither zymotic nor ordinary annual exhalations follow the laws of the diffusion of gases, but, like smoke and dust, are suspended in the atmosphere until they become decomposed, or are washed down by the rain, or are deposited with the dew. From their fixed nature, these miasmata admit of concentration in close situations, and of dispersion by free ventilation, with a proportionate effect upon their power of exciting disease; and hence it is a universal rule that the most crowded parts of our cities are the most unwholesome. There is, however, this distinction between the action of the non-specific and the zymotic miasms, that the former only deteriorate the general health, while the latter excite a specific disease in persons exposed to their influence; and, when highly concentrated, will re-infect even those who have previously suffered from the same disease, as well as render it more virulent in those now for the first time exposed to the infection. Mr. Farr has also shown that the period of the greatest mortality is under ten years of age, during which time a considerable part of the day is spent by the children in schools, the ventilation of which is usually very defective. When, therefore, a specific infection is introduced into a district where the inhabitants are suffering from the presence of malaria, we have every reason to expect that its extension will be rapid, and its attacks severe.

It happened that all these conditions existed in the locality I have described. There were many sources of malaria in the sewers, manure heaps, and stagnant water, all of which were concentrated round the parish school-room, which is not well ventilated in proportion to the number of scholars, and small-pox and scarlatina broke out among them at the hottest time of the year. Under these circumstances, I cannot think that any new theory was broached in ascribing the prevalence of these diseases to the existing miasmata, and their decline to the adoption of sanitary measures.

Kensington, June 11, 1849.

MEDICAL GAZETTE.

FRIDAY, AUGUST 3, 1849.

In resuming our examination of Dr. Parkes's Inquiry into the Origin of Cholera in London, we shall next advert to the local conditions which are alleged to be most favourable to the propagation of the cholera-poison. These are—

"1. A low, damp locality, particularly one situated on the banks of rivers, or on marshy ground. 2. A close, impure air, from the accumulation of individuals, and from the effluvia arising from them. 3. Any circumstances which may cause organic particles to be continually emitted into the air, and which form over the locality a kind of canopy, which is continually dissipating itself into the surrounding purer air, and is as continually renewed by exhalations from below."

When the cholera-poison is introduced into a locality where these conditions exist, it may, according to one theory, increase and augment itself. Dr. Parkes enumerates four conceivable ways in which the poison may become present in such a locality:—

"1. By the arrival of an infected person, whose body throws off the particles of poison, which then meet in the atmosphere around them with the conditions of increase.

"2. By the arrival of one or more non-infected persons, to whose clothes or baggage particles of poison may have adhered during their passage through an infected district.

"3. By the introduction of the poison, either by currents of air or from the influence of some peculiar force, which causes the cholera-poison to pass over tracts of country in determinate directions.

"4. By an actual generation of poison in the locality itself; a peculiar atmospheric or other dynamic state having concurred to make up, with the previously existing conditions, the sum of those circumstances whose assemblage causes the generation of the particular poison proper to that conflux of conditions."

It appears that in nine out of the ten metropolitan districts in which the twenty-eight cases of cholera recorded by Dr. Parkes appeared, the poison would have met with some of these favourable conditions of development: the questions therefore arise—Was it brought there? Did it travel there? or, Was it generated there?

"The scrutiny to which these cases have been subjected, proves that in the greater number of the localities—in all, in fact, except Horsleydown—the poison was not imported by any person ill of cholera arriving in the locality. Nor could it have been brought by the clothes or baggage of any persons coming from infected districts in England, as there were no infected districts from which such persons could have come. There is no evidence either of any persons arriving from the Continent, from Hamburgh or from Dantzic, to these localities. If such persons did arrive in London, it is most probable that they were connected with the shipping, and were therefore many miles removed from Lambeth, Chelsea, and the other places in question.

"In Horsleydown, however, the poison may have been imported; but if so, it is a very interesting point that it did not seem to propagate itself by contagion or otherwise. The next case which occurred in this locality was seven days after that of John Harnold,* and after this there were only a few scattered cases for many weeks. The poison therefore died away, or rather remained at its lowest point of intensity."

The Board of Health at one time adopted the view that the cholera-poison might be generated in certain localities from some unknown state of the atmosphere operating upon the contents of drains, sewers, and open-ditches. The untenable character of

* A patient who arrived from Hamburgh, where the cholera prevailed at the time.

such a loose hypothesis as this, is, however, fully demonstrated in the following remarks:—

"With regard to the generation of the poison, there is no doubt that in Horsleydown, as well as in Lambeth, Chelsea, and in many parts of London, some of those circumstances which we have termed 'local conditions of existence,' existed in considerable intensity, and yet the cholera-poison did not develope itself in any commensurate degree. Was there not some essential condition wanting, whose deficiency prevented or nullified the effect which the other conditions would have had if conjoined with it? And if so, what was this condition? And it may be remarked that this evident inability to propagate itself rapidly* was displayed in all the localities—at Chelsea, at Lambeth, and even at Woolwich; and it has continued to be marked, more or less, even to the present date (February). At Chelsea, although the court in question was close to the river, was in a most filthy state, and was crowded with inhabitants, only six cases occurred; the disease then stopped, and has not since returned. In Lower Fore Street, Lambeth, although a place which had actually been pointed out by Mr. Wagstaffe before the cholera appeared in England, as eminently displaying the local conditions favourable for the spread of the disease, only four cases occurred, and then the disease stopped for a month. And even on board the Justitia, although cases continued to be furnished until the convicts were moved from their unhealthy anchorage, yet they occurred slowly, and with intermissions of days, or occasionally even of a week, between each case."

In order to explain the cause of this sudden cessation of the disease in localities in which the conditions continue unaltered, Dr. Parkes suggests that there may be some element yet unindicated, connected with the actual progress of the disease, which is wanted to complete the sum of conditions under which the poison attains its highest development. It may possibly be a peculiar as yet unrecognised atmospheric condition, which accompanies the poison, or which, under certain local conditions, developes it. This is not a very intelligible view, and the fact that it is broached by one who has had some experience in watching the disease in India and England, is a sufficient proof that we are yet very far from a consistent theory of the mode of diffusion of cholera.

Dr. Parkes has clearly proved his position,—that the strict contagious theory cannot explain the origin of these early cases of cholera in London; but he has not cleared away any of the difficulties which beset our knowledge of the subject. The Zymotic doctrine of the spontaneous generation of the disease in undrained and ill-ventilated localities,—the favourite hypothesis of the Board of Health,—is equally overthrown by the result of this inquiry. If the hypothesis of its *spontaneous generation* were true, the cholera should not cease in a locality until it had been thoroughly drained and ventilated: it should be found in all localities where similar conditions exist: it should not occur in other places where these conditions do not exist; its intensity should be in a direct proportion to such conditions, and the disease should be with us at all times and in all seasons.

The inquiry of Dr. Parkes, and the researches of numerous other observers, clearly prove that the progress and diffusion of cholera can no more be explained by this theory of local origin than by strict contagion: hence almost any kind of speculation will find its advocates. One refers the origin of cholera to subterranean volcanic agency,—another ascribes it to emanations from the tertiary strata—a third to a deficiency of the electric fluid in

* This also tells against the strict contagious theory; as, if susceptible human bodies were all that the poison wanted, these have of course (?) been abundantly supplied to it.

the atmosphere, and its accumulation in the human body,*—a fourth to the diffusion of cryptogamous plants,—a fifth, to clouds of microscopical insects —a sixth, to an indefinite something propagated from east to west, and from north to south, producing the disease only under certain local conditions: these local conditions, however, often exist without the disease being produced. It would be a waste of time to show the absurdity of opinions which are little better than random conjectures, and which would have no existence were our information on the subject of epidemics more advanced. They will, however, for the present, find their supporters: all that can be said of them is, that they rest either on mere assumption, or on the most loosely conducted observations, and they do not require disproof by serious argument.

We cannot quit this subject without stating that Dr. Parkes's pamphlet leaves the question of contagion, as applied to cholera, much in the same state as the author found it. The proof that cholera was imported into London in the autumn, fails; although it is remarkable that the first well-marked and unequivocal case recorded by Dr. Parkes occurred in a seaman who had just arrived from Hamburgh, where the cholera was prevailing.† If, however, direct proof of contagion be wanting in this instance, it is abundantly supplied from other sources. Among many cases which have been published in the MEDICAL GAZETTE, we know of none more clear or satisfactory than those recently reported by Dr. J. O. M'William.* A man must indeed be a sceptic or a very strong supporter of the Board of Works, who can affirm that the facts collected by Dr. M'William do not unequivocally prove that cholera is communicable from one person to another; and it is highly creditable to the candour of Dr. Parkes, to find him stating, in reference to these and the Tooting cases, that he does not see what conclusion is to be arrived at but that cholera is occasionally, although only exceptionally, contagious.

* This learned theorist, whose peculiar views have been widely circulated through the "usual channels of information," does not tell us why the electric fluid should fly from the atmosphere to accumulate in the human body only—why, in other words, animals should be exempt from this accumulation.

† Are we prepared to say that the outbreak of cholera in the metropolis a few days after the occurrence of this rapid and unequivocal case in a seaman arriving from an infected port, was only a coincidence? Such occurrences have been too frequent to allow of this supposition, notwithstanding the want of clear proof of contact with or proximity to the sick. A similar coincidence, if such it can be called, occurred at New Orleans in the latter part of last year. Cholera was unknown in that city, until shortly after the arrival of a vessel in which the disease prevailed. The first cases in the city could not be clearly traced to intercourse with the infected crew. The disease thence travelled up the Mississipi, and gradually died out in the different places which it attacked. In some instances its diffusion could be traced to communication; in others it could not. Admitting that in its subsequent intercourse, proof of intercourse was often wanting, are we thence prepared to assert that the arrival of an infected ship, and the appearance of cholera in the city a few days afterwards, had no relation to each other,—in fact, that the outbreak of a disease in this distant city, similar to that which prevailed in the ship, was a mere coincidence?

* See our last volume, page 1031.

THE letter of Dr. Stewart, inserted in another part of our journal, directs attention to a grievance affecting the profession, which appears to have originated in the officious interference of the Board of Health. It is obviously unjust that medical men, who act gratuitously as officers to dispensaries and infirmaries, should be expected to devote the whole of their time, during the prevalence of an epidemic like cholera, to attendance on the poor. Yet it would appear from Dr. Stewart's letter, that these services must either be rendered gratuitously, or the office resigned. As the prevalence of a serious and fatal epidemic is altogether an exceptional occurrence, the governors of these charitable institutions should, it appears to us, either

appoint supernumerary officers, to be paid for their services, or they should make some compensation to their own medical officers for the additional labour imposed upon them. Unless one or other of these plans be adopted, we should advise the medical officers to resign. We fear they must either incur the unpopularity of this step, or submit to the shameful exaction of very arduous duties without the prospect of remuneration.

THE CHOLERA IN THE METROPOLIS.

THE following is the official return of the deaths from cholera in the metropolis, as well as in the provinces, during the last three days:—

July 30.

—	Attacks.	Deaths.
In London and vicinity	240	130
In England and Wales	320	169
In Scotland	58	41
Total . .	618	340

July 31.

—	Attacks.	Deaths.
In London and vicinity	214	115
In England and Wales	300	123
In Scotland	33	12
Total . .	547	250

August 1.

—	Attacks.	Deaths.
In London and vicinity	246	114
In England and Wales	301	152
In Scotland	50	24
Total . .	597	290

Reviews.

1. *An Introduction to Botany.* By JOHN LINDLEY, Ph.D. F.R.S. &c. 4th edition, in two volumes. 8vo. pp. 406 and 427. London: Longmans. 1848.
2. *Medical and Œconomical Botany.* By JOHN LINDLEY, Ph.D. F.R.S. &c., with numerous illustrations. 8vo. pp. 274. London: Bradbury and Evans. 1849.
3. *Principles of Scientific Botany; or, Botany as an Inductive Science.* By Dr. J. M. SCHLEIDEN, Professor of Botany in the University of Jena, &c. Translated by EDWIN LANKESTER, M.D. F.R.S. &c., Lecturer on Materia Medica and Botany at St. George's School of Medicine. 8vo. pp. 616. With numerous wood engravings. London: Longmans. 1849.
4. *Observations on Natural Systems of Botany.* By J. L. DRUMMOND, M.D., Prof. of Anatomy and Physiology in the Royal Belfast Institution. Sm. 8vo. pp. 100. London: Longmans. 1849.
5. *Outlines of Botany, for the use of Families and Schools.* By THOMAS GRAHAM, M.R.C.S., &c. 8vo. pp. 88. London: Hookham. 1848.

1. THE popularity which this work has enjoyed is sufficiently indicated by the fact that we have here to announce the publication of a fourth edition; a goal of success which few authors on scientific subjects are destined to reach. The great object of Dr. Lindley in this Introduction, is to lay before his readers the principles of vegetable anatomy and physiology.

"To explain these principles; to adduce the evidence by which their truth is supposed to be proved, or the reasoning upon which they are based in cases where direct proof is unattainable; to show the causes of errors now exploded, the insufficiency of the arguments by which doubtful theories are still defended, and in fine to draw a line between what is certain and what is doubtful, are some of the objects of this publication, which is intended for the use of those who, without being willing to occupy themselves with a detailed examination of the vast mass of evidence upon which the modern science of botany is founded, are nevertheless anxious to acquire a distinct idea of that evidence."—*Preface.*

This quotation may serve to indicate the principal features of this work. The first volume, and part of the second, treat of *Organography*, or Vegetable Anatomy. We have here a full explanation of the elementary organs and structure of plants, with an analysis of the views of the most distinguished continental writers on this subject. The remainder of the second volume is subdivided into two parts: the larger portion comprises *Vegetable Physiology*, or the history of those vital phenomena which have been observed in plants in general, in particular species, and also in each of the organs taken separately; and the smaller or concluding portion is confined to *Glossology* or *Terminology*, comprising the definition of the terms used in botany.

The most interesting portion of the two volumes is the section on Vegetable Physiology. The author has here displayed great industry in his collection of facts from all authentic sources, and he has contrived to bring together many curious observations on the vital phenomena manifested by vegetables. He holds it to be now clearly established that motion, in common with other phenomena of life in plants, can be referred only to the *excitability of a vital fluid.*

"*Indications of life in plants.*—Let us take the commonest cases. The flowers of the Crocus and similar plants expand beneath the bright beams of the sun, but close as soon as they are withdrawn. The Œnotheras unfold their blossoms to the dews of evening, and wither away at the approach of day. Some Silenes roll up their petals in the day, and expand them at night. The florets of numerous Composites, and the petals of Mesembryanthemum, are erect in the absence of sun, but become reflexed when acted upon by the sun's beams; and many other such phenomena are familiar to every observer of nature. It is probable, indeed, that a different action exists in all plants by day and night, although it is less visible in some than in others: thus plants of corn, in which there is little indication of sleep when grown singly, exhibit that phenomenon very distinctly when observed in masses; their leaves become flaccid, and their ears droop at night. These effects have been attributed to the action of light, and it is probable that that agent contributes to produce them; for a flower removed from the shade will often expand beneath a lamp, just as it will beneath the sun itself; and De Candolle found that he could induce plants to acknowledge an artificial day and night, by alternate exposure to the light of candles. But it is obvious that there must be some cause beyond light, because many flowers will close in the afternoon while the light of the sun is still playing upon them, and the petals of others will fold up under a bright illumination; and that cause may be reasonably supposed to be an excitable vital fluid. The experiments of Macaire and Marcet prove, indeed, conclusively, that whatever the true seat of vegetable vitality may be, it is similar in its nature to that of the animal kingdom." (ii. p. 149.)

Plants are not only susceptible of the action of poisons, but, like animals, they are capable of being benefited by antidotes in the shape of stimulants. In proof of this, the author quotes the results of some interesting experiments by Macaire:—

"*Poisoning of plants.*—A leaf of the sensitive plant was (immersed?) in a cold diluted solution of opium: in a few moments it opened out as in water, and, after half an hour, gave the usual signs of contractibility. In six hours it was expanded, and had a natural appearance, but could not be excited to move. The leaflets were flexible at the articulations, and offered a singular contrast to the state of irritation produced by corrosive sublimate. Pure water did not recover the plant. A large branch similarly situated expanded its leaves, but in half an hour had lost much of its sensibility: the leaflets, though alive, seemed asleep, and required much stimulating to cause contraction. In one hour the contractions ceased; in two hours the branch was dead.

"A leaf placed in prussic acid (Scheele's strength) contracted, then slightly dilated, but was quite insensible, and the articulations were flexible: water did not recover it. If the acid be very weak, the leaflets dilate and appear to live, but are insensible. A drop of the acid placed on two leaflets of a healthy plant gradually causes contraction of the other leaflets, pair by pair. Solutions of opium and corrosive poisons have no effect when applied this way. After some time they dilate, but are insensible to external irritation: the sensibility returns in about half an hour, but the leaflets appear as if benumbed.

"The plant exposed to the vapour of prussic acid is affected in the same way. Ammonia appears to favour the recovery of the plant." (ii. p. 153-154.)

One plant, the *Physostegia Virginiana*, is subject to a condition analogous to catalepsy. The cataleptic property is, however, only preserved by the flowers

when moved horizontally: if raised up and down they spring back to their original position with considerable force.

"*Mechanical, simulating vital actions in plants.*—To mere mechanical action ought, perhaps, to be referred the curious phenomenon well known to exist in the fruit of the *Elaterium*, or *Spirting Cucumber*. In this plant, the peduncle, at a certain period, when the fruit has attained its perfect maturity, is expelled along with the seeds and the mucus that surrounds them, with very considerable violence. Here, however, endosmose appears to offer a very satisfactory explanation. According to Dutrochet, the fluid of the placentary matter in this fruit gradually acquires a greater density than that which surrounds it, and begins to empty the tissue of the pericarpium: as the fruit increases in size, the same operation continues to take place; the pulpy matter in the centre is constantly augmenting in volume at the expense of the pericarpium; but, so long as growth goes on, the addition of new tissue, or the distension of old, corresponds with the increase of volume of the centre. At last growth ceases, but endosmose proceeds; and then the tissue that lines the walls of the central cell is pressed upon forcibly by the pulp that it encloses, until this pressure becomes so violent that rupture must take place somewhere. The peduncle, being articulated with the fruit, at length gives way, and is expelled with violence; at the same time the cellules of tissue lining the cavity all simultaneously recover their form, the pressure upon them being removed, and instantly contract the space occupied by the mucous pulp; the consequence of which is that it also is forced outwards at the same time as the peduncle. It has been found by measurement, that the diameter of the central cavity is less after the bursting of the fruit than before.

"The valves of *Impatiens noli-tangere*, when the fruit is ripe, separate and spring back with great elasticity when touched. In this case the phenomenon is apparently capable of explanation upon a similar principle to the Elaterium. In the fruit of *Impatiens*, the tissue of the valve consists of cellules that gradually diminish in size from the outside to the inside; and the fluids of the external cellules are the densest. The latter gradually empty the inner cellules and distend themselves; so that the external tissue is disposed to expand, and the internal to contract, whenever anything occurs to destroy the force that keeps them straight. This at last happens by the disarticulation of the valves, the peduncle and the axis; and then each valve rapidly rolls inwards with a sudden spontaneous movement. Dutrochet proved that it was possible to invert this phenomenon by producing exosmose: for that purpose he threw fresh valves of Impatiens into sugar and water, which gradually emptied the external tissue, and, after rendering the valves straight, at length curved them backwards." (ii. p. 157-158.)

The cause of the fall of the leaf has exercised the ingenuity of botanists. The following explanation by De Candolle, appears to be the nearest to the truth.

"*The fall of the leaf.*—The increase of leaves, whether in length or in breadth, generally attains its term with considerable rapidity; the leaf exercises its functions for a while, and enjoys the fulness of its existence; but, by degrees, in consequence of exhaling pure water, and preserving in the tissue the earthy matters which the sap had carried there, the vessels harden and their pores are obstructed. This time in general arrives the more rapidly as evaporation is more active: thus we find the leaves of herbaceous plants, or of trees which evaporate a great deal, fall before the end of the year in which they were born; while those of succulent plants, or of trees with a hard and leathery texture, which for one cause or another evaporate but little, often last several years. We may, therefore, in general say that the duration of life in leaves is in inverse proportion to the force of their evaporation. When this time has arrived, the leaf gradually dries up, and finishes by dying: but the death of the leaf ought not to be confounded with its fall; for these two phenomena, although frequently confounded, are in reality very different. All leaves die some time or other; but some are gradually destroyed by exterior accidents, without falling; while others fall, separating from the stem at their base, and drop at once, either already dead, or dying, or simply unhealthy.

"The main cause is, however, to be sought in the different rates at which leaves and bark grow. So long as they continue to grow at the same rate, they adhere to each other: but if, from whatever cause, the leaf grows more slowly than the bark, it drops; or if the tissue of a leaf contracts suddenly, while the bark remains distended, we obtain the same result. The latter seems to be one of the reasons why leaves are instantly cast in the autumn after a sudden frost; the former is the obvious explanation of the fall of evergreen leaves upon the renewal of growth in the spring." (ii. p. 206-207.)

The disengagement of heat in the germination and flowering of plants is a curious phenomenon, which appears now to receive its explanation in the

consumption of a large proportion of oxygen. According to our author, the disengagement of caloric, and the consumption of oxygen, are in direct relation to the development of the glandular disc, and are also at a maximum when the functions of the anthers are most actively performed. The increase of temperature during flowering has been noticed in the *Arum*, the *Gourd*, the *Bignonia radicans*, and *Polyanthes tuberosa*.

"*Heat evolved by the arum.*—In no plants, perhaps, is the glandular disc more developed than in Arums; and it is here that the most remarkable degree of development of caloric has been observed. Senebier found that the bulb of a thermometer, applied to the surface of the spadix of Arum maculatum, indicated a temperature 7° higher than the external air. Hubert remarked this, in a still more striking degree, upon Arum cordifolium, at the Isle of France. A thermometer placed in the centre of five spadixes stood at 111°, and in the centre of twelve at 121°, although the temperature of the external air was only 66°. The greatest degree of heat in these experiments was at sunrise. The same observer found that the male parts of six spadixes, deprived of their glandular part, raised the temperature only to 105°; and the same number of female spadixes only to 86°; and finally, that the heat was wholly destroyed by preventing the spadix from coming in contact with the air. Similar observations were made by others, with corresponding results; but, nevertheless, as many persons attempted in vain to witness the phenomenon, it began to be doubted, especially after Treviranus added his authority to that of those who doubted the existence of any disengagement of heat. The truth of the statement of Saussure and others, has lately, however, been placed beyond all further doubt, by the experiments of Adolphe Brongniart upon Colocasia odora." (ii. pp. 210-211.)

M. Dutrochet has added to our knowledge on the heat of plants, that the increase is generally seated in the green parts, and is subject to periodical change.

"*Periodical increase of heat in plants.*—This heat exhibits a daily periodicity; it reaches its maximum towards mid-day, and its minimum during the night. The hour at which plants reach their maximum temperature is the same for each species, but different in different species; thus, Rosa Canina at 10 A.M.; Allium Porrum at 11 A.M.; Borago officinalis at mid-day; Euphorbia Lathyris at 1 P.M.; Sambucus nigra at 2 P.M.; and Asparagus and Lactuca sativa at 3 P.M. The greatest heat is in the neighbourhood of the principal bud, and in woody plants often only in the green extremities. Other experiments confirm the fact, that plants growing in the dark lose their vegetable heat; but experiments on different fungi showed that these also possess a daily periodicity. Boletus æneus exhibited a heat of $\frac{1}{2}$° C." (ii. p. 216.)

Among the singular circumstances connected with the fertilization of plants, is the self-impregnating power which is said to be possessed by some of the species. In these, the organs are absolutely female, no trace of pollen being found,—a fact adverse to the common views of the sexuality of plants.

"*Unisexual and self-impregnating plants.*—Mr. John Smith has described in the *Linnæan Transactions*, vol. xviii. p. 510, a Spurgewort, named *Cœlebogyne ilicifolia*, which, although absolutely female, not possessing a trace of pollen, nevertheless produces perfect seeds. He inclines to the belief that a viscid fluid issuing from glands below the ovary, may produce an effect by exciting the action of the pistil,—a supposition which receives some support from the young stigma being often smeared with this fluid. The statement that no male apparatus is discoverable on this plant is confirmed by Francis Bauer and others. We ourselves have often examined the plant without perceiving a trace of stamens or pollen. Dr. Fresenius has observed that in *Datisca cannabina*, when female plants remain isolated, they are able nevertheless to produce ripe fruit in abundance; and he concludes that this and other purely female forms are, in the absence of male organs, endowed with the capability of developing, by a purely vegetative process, the highest vital product, the terminal bud (or seed.) In the summer of 1837, a female specimen of the above plant, in the Frankfort Botanical Garden, threw up a stem which now bears male flowers also. (*Linnæa*, 1839.) Spallanzani, Girou de Buzareingues, and others, affirm that the female hemp produces ripe seeds in the absence of males; but others assert that if proper precautions are taken to secure the removal of *all* the males the female hemp is barren; Achille Richard, Desfontaines, Marti and Serafino Volta, have obtained the latter result from careful experiments. On the other hand, Professor Gasparrini declares it to be a well-ascertained fact 'that the embryo may be formed in the absence of fecundation.'" (p. ii. 239-240.)

Some curious experiments on the effect of heat on seeds, are calculated to throw great light upon the cause of

the impossibility of making certain plants multiply themselves by seeds in hot countries.

"*Effect of heat on seeds.*—Edwards and Colin have instituted some experiments to determine what temperature seeds can bear. They found that Wheat, Barley, and Rye, could germinate at 7° centig. (44·6° Fahr.); and that grain of the same description did not apparently suffer by being exposed for a quarter of an hour to a temperature equal to freezing mercury: such grains were afterwards placed in a proper situation, and germination took place as usual. Considering that the particles of fecula of which seeds consist are not liable to bursting below a temperature of 75° centig. (167° Fahr.), these observers were led to ascertain how near an approach to this extreme temperature might be made, without destroying vegetable life. Seeds of various cereal and leguminous plants were placed for a quarter of an hour in water of this temperature, and they were all killed; five minutes were afterwards ascertained to suffice for the destruction of three in five. Less elevated temperatures were not experimented on. Wheat, Barley, Kidney-beans, and Flax, were killed in 27½ minutes, by water at 62° centig. (143·6° Fahr.); a few grains of Rye, and some Beans, required a longer exposure to be destroyed. When the temperature was lowered to 52° centig. (125·6° Fahr.), most of the seeds in experiment retained their vitality; but even this was fatal to Barley, Kidney-beans, and Flax." (ii. p. 262-263.)

The following remarks relative to the influence of temperature on the secretions of vegetables, are of great interest in a medical point of view:—

"We are assured by Dr. Christison that the Œnanthe crocata, one of the most venomous of our wild herbs, as it grows wild in the neighbourhood of Edinburgh, is destitute of narcotic properties at all seasons. 'The juice of a whole pound of the tubers, the part which has proved so deadly elsewhere, had no effect when secured in the stomach of a small dog, either at the end of October, when the tubers are plump and perfect, but the plant not above ground, or in the month of June, when it was coming into flower; and an alcoholic extract of the leaves, and that prepared from the ripe fruit, had no effect whatever when introduced into the cellular tissue of the rabbit under the same conditions in which the common hemlock acts so energetically. By a comparative experiment he ascertained that tubers collected near Liverpool, acted with considerable violence on the dog.' The same singular fact has been observed by Dr. Christison in the Cicuta virosa, which he describes as being innocuous in Scotland, or nearly so. In these cases it seems difficult to explain the want of active properties, except upon the supposition that the temperature of Scotland is too low for eliciting the chemical action which ends in producing poison, although it may be high enough for mere vegetation. The inferior quality of European Rhubarb, Hemp, and Tobacco, is perhaps referable to the same circumstance.

"The quality of secretions is not, however, always dependent upon the action of external agents: but is in some cases connected with vital processes too obscure for the explanation of the physiologist. Dr. Christison has found by experiment that, although the Midsummer leaves of Conium are very active, yet that they are eminently energetic in the young plant, both at the beginning of November and in the month of March, before vegetation starts on the approach of genial weather. The fruit, in like manner, is most active when full grown, but still green and juicy; it then yields much more of the active principle Conia than afterwards, when it is ripe and dry. Possibly this may have some connection with the chemical composition of Conia, which being an azotized principle may be expected to disappear with the nitrogen necessary to its constitution, and which is most abundant in the youngest parts. In like manner Tannin seems to be more abundant in young plants than in old, in spring than in autumn, although, not being an azotised product, the conjecture as to Conia will not apply to it.

"In many cases a secondary action takes place in plants, dependent upon mere vital force, and unconnected with any direct action of light, air, or temperature. There can be no doubt that the process of 'ripening' in the Potato, which consists in a gradual change of its gummy matter into starch, is of this nature. This phenomenon occurs in the tubers, is naturally produced in darkness, and in a low temperature, and is independent of light. It goes on till late in the autumn, and does not cease till the temperature becomes too low to favour chemical alterations." (ii. p. 302-3.)

We must here bring our notice of these interesting volumes to a close. Our readers will be able to judge from the extracts we have made, not only of the style of the author, but of the ready way in which he makes his own experience and that of others available for the purpose of rendering this, a very useful work to students of botany.

2. In the second work upon our list, Dr. Lindley appears before us as the author of a volume on Medical and Œconomical Botany. A work like

this has been long a desideratum to medical practitioners who have not the time to wade through elaborate scientific treatises for the purpose of identifying medicinal plants. We are told in the preface, that the work contains a description of the characters of all those plants which can be brought by European teachers under the notice of students, or which from their great importance deserve to be among the earliest subjects of study. The selection is small, but sufficient for the guidance of those to whom this treatise is especially addressed. In his plan, Dr. Lindley has followed that employed by Linnæus in his Materia Medica. Each species, placed in its due position in the (Lindleyan) classification, has its vulgar or officinal name, as well as that which it bears in science; and in a few brief lines, the country whence it comes, its qualities, and the uses to which it has been found applicable. The author's aim is analytical: it is to point out *distinctions*, and the fewest possible words are employed with this view. The Vegetable Kingdom of Dr. Lindley is, however, made a kind of key to this work. Let us take a specimen at random—

"Natural order Valerianworts *Valerianaceæ*. (V. K. p. 697.)

Valeriana Linnæus.

Calyx pappose. Corolla spurless. Stamens 3; 1 V. *Officinalis* Linnæus (True Valerian). Leaves all pinnatifid with 7-8 pairs of lanceolate segments; corymb becoming panicled: fruit smooth.

Habitat. Damp meadows in Europe.

Quality. Nervine, tonic, antispasmodic; a remarkable feline stimulant.

Uses. Epilepsy, chorea, spasms, hypochondriasis, hysteria." (p. 225.)

Accompanying this description there is an excellent delineation of the flower and leaves.

We have looked through the work, and find it to be a useful book of reference for medicinal plants. The wood engravings, which amount to 363, are admirably executed; and, in the absence of colour, they give the best possible representation of each plant. The Atropa Belladonna, p. 204, — the Conium Maculatum, 247, — Œthusa Cynapium, 248, — and the Œnanthe Crocata, 251, — furnish examples of the careful superintendence which has been bestowed on these delineations. Several of the common varieties of mushrooms are also well drawn; and by the aid of these, with the descriptions, country practitioners will have it in their power to identify the species which are likely to occasion accidents.

There is one drawback to the book which we feel called upon to point out. We assume that this work is intended by the author for students and practitioners, and not solely for the use of Hookers, Henslows, and other professors of Botany. The absence of a glossary, is therefore, in our judgment, a serious defect. The young gentlemen who annually climb the ladder of science in the University of London, and who are regularly drilled by Professor Henslow in all the esoteric mysteries of modern botanical nomenclature, can of course give us off-hand the precise meaning of the terms "pappose," "pinnatifid," "corymb," "panicled," &c. &c.; but we are desirous of putting in a word for the hundreds of professional men who would like to place a work of this kind in their libraries, and to suggest to Professor Lindley that he might as well have written some of his short notes in any one of the hundred Polynesian dialects described by Dr. Prichard, as employ scientific terms which require a special dictionary for their interpretation. We do not object to the use of the terms themselves; but we decidedly object to a botanical work containing them, being published without a glossary. Scientific writers on botany should remember that there is an exoteric as well as an esoteric class of readers, and the work before us is likely to find the majority of its readers in the former. A Glossary of a very extended kind has been published by Dr. Lindley in his Introduction to Botany already noticed; but we hold that the purchaser of the present treatise should not be compelled to procure that or other expensive works by the same author in order to learn the meaning of the terms contained in the Medical Botany.

With this exception, which, by the addition of half a dozen pages, admits of removal in another edition, we pronounce this to be a most useful and instructive book. It should equally find a place in the library of the medical student, the advanced practitioner, and the man of science.

3. Dr. Schleiden has been long known to European botanists as a highly successful cultivator of their favourite science. In the work before us, which is a translation of the second German edition, we have a complete illustration of the elaborate research which is so characteristic of the German mind. Although entitled "Principles of Scientific Botany," it must be regarded as a complete treatise on philosophical and physiological botany. The limits assigned to our review department render it impossible for us to give a full analysis of its contents. In the first section of the work there is a description of the *Chemistry of Plants*, with an account of the *Inorganic* and *Organic Elements;* the second is devoted to the form and life of the *Plant-cell;* the third to *Morphology;* and the fourth to *Organology.* The two latter sections occupy four-fifths of the volume. We have so fully noticed the subject of organology in the review of Dr. Lindley's Introduction, that it is unnecessary again to revert to it. We shall merely remark that this is to us the most instructive and interesting portion of Dr. Schleiden's treatise. In the Appendix there are some useful and practical remarks on the employment of the microscope in botanical investigations.

Dr. Lankester has been assisted in his difficult task by Mr. Henfrey, who is well known as a good practical botanist. Although in some parts there is a certain stiffness of language, perhaps inseparable from an English version of the German idiom, yet we consider that the translation is on the whole well executed. This book may be regarded as a most acceptable addition to our botanical literature.

4. In the litttle manual before us, Dr. Drummond appears as the staunch defender of the Linnæan system of Botany, and a fierce assailant of that which has now almost universally taken its place under the name of the Natural System. To the substitution of a vile catalogue of names, and the assemblage of an infinite number of particulars, which bewilder the mind, and defy the power of an excellent memory, he ascribes the decay of Botany as a popular study, especially among females. A system is nothing more than a grammar, to render the acquisition of a science or a language easy. We all know that some grammars intended to teach the German language, are profoundly correct; but any scholar would willingly exchange these intensely correct guides with their twelve declensions and as many conjugations, for a plain and simple exposition of the rules. The system of Linnæus is not to be abandoned because it is called artificial, or that of Jussieu adopted because it is called Natural. The great and important question, as Dr. Drummond observes, is:—

"What system is best calculated for leading the student to a knowledge of such plants as he may wish to examine; and this is easily answered, for there never was, nor perhaps ever can be, invented, a method that will so completely answer such an end as the system laid down by Linnæus. All former methods sank into insignificance before it; and although it is the fashion of the present day to vilify, ridicule, and speak of it as useless, I greatly fear that, until it again comes into favour, and obtains the countenance it deserves, Botany, as a popular pursuit, will become as dead a letter as it was before the system of Linnæus engaged the attention, and struck with admiration and delight almost all the naturalists of Europe." (p. 2-3.)

Making some allowance for the enthusiasm of the writer, there is great truth in these observations.

Dr. Lindley, it is well known, has been the chief modern advocate of the Natural system; and he has exulted in the overthrow of the "superficial and useless system of Linnæus," which he describes as "a mere matter of history."* Dr. Drummond tells us that he has not been able to discover one single advantage which the so-called Natural system possesses—

"It contradicts itself at every turn, is full of misrepresentation, and so far from being natural, brings together into the same orders plants possessed of the most different qualities and appearance. We are candidly enough, indeed, told that, of this system, 'Nature herself who creates species only, knows nothing. Our genera, orders, classes and the like, are mere contrivances to facilitate the arrangements of our ideas with regard to species. A genus, order or class, is therefore called natural, not *because it exists in nature*, but because it comprehends species naturally resembling each other more than they resemble anything else.'

* Preface to Vegetable Kingdom.

"Of these resemblances I will give some examples from Dr. Lindley's 'Vegetable Kingdom;' but these, let it be observed, are only a small sample from a multitude, as I will refer only to such plants as almost every one is familiar with. We all know a rose, and we are equally well acquainted with the strawberry; but few persons, I apprehend, would say that they 'resemble each other more than they do anything else,' or that they should belong to a family of plants called *natural*. They belong, however, to the order Rosaceæ, as do many others as unlike roses as can be imagined, and among these is the meadow-sweet, which has no more resemblance to a rose than it has to a beech-tree. Heath is not very like a rhododendron, yet by the magic power of the natural system, the heaths, rhododendrons, azaleas, and arbutuses are all domesticated together in one family or order, along with others as unlike each other as possible; and so it is with almost every one of the 303 orders described in the 'Vegetable Kingdom.' In the order Primulaceæ we have the primrose, the cyclamen, and the water violet. In Ranunculaceæ, we find united in similar bonds the butter-cup, the traveller's joy, the anemone, the hellebore, and the marsh-marigold, which *do* bear some similarity to each other; but then, along with these plants, we have the columbine, the larkspur, the aconite, and the peony, which an uninitiated person would pronounce to be very unlike to those preceding. The butter-cup and the larkspur have certainly little resemblance to each other. In the other orders we find similar anomalies throughout; the snow-drop, united with the American aloe—the lily, with the asparagus and butcher's broom—the lupin and trefoil, with the laburnum—the privet, with the ash—the potato, with capsicum and the deadly night-shade—the beautiful little speedwell (*veronica*), with the tall shepherd's club, snapdragon, globe-flowered buddlea, eye-bright, yellow-rattle, and digitalis. But it is unnecessary to point out any more of these most unnatural combinations, and I will only further observe that the honeysuckle meets in the same order with the laurustinus and the elder." (p. 8-11.)

These illustrations prove that the natural system is as artificial as that which it has so roughly excluded on false pretences. The importance of the Natural system, in a medical point of view, has been most grossly misrepresented. We are confidently told by its advocates that *all* the plants included *in the same order* are possessed of similar properties.

"The advantages (says Dr. Lindley) of the natural system in applying botany to useful purposes are immense, especially to medical men, who depend so much upon the vegetable kingdom for their remedial agents. A knowledge of the properties of *one* plant enables the practitioner to judge scientifically of the qualities of *other* plants naturally allied to it; and therefore the physician, acquainted with the natural system of botany, may direct his inquiries, when on foreign stations, not empirically, but *upon fixed principles*, into the *qualities* of the medicinal plants which have been provided in every region for the alleviation of the maladies peculiar to it. He is thus enabled to read the hidden characters with which Nature has labelled all the hosts of species that spring from her teeming bosom. Every one of these bears inscribed upon it the *uses* to which it may be applied, the *dangers* to be apprehended from it, or the *virtues* with which it has been endowed. The language in which they are written, is not indeed human, it is in the living hieroglyphics of the Almighty, which the skill of man is permitted to interpret. The key to their meaning lies enveloped in the folds of the natural system, and is to be found in no other place." (p. 14-15.)

The incorrectness of this statement is clearly demonstrated by some of the examples quoted by Dr. Drummond. If it be true, the plants contained in the *order* to which Peruvian bark belongs,—*Cinchonaceæ*, or, according to Lindley, Cinchonads,—ought to possess the same febrifuge and other qualities; but Dr. Lindley states that many of the plants in this order are very valuable as "tonics, febrifuges, emetics, *or* purgatives." The emetic Ipecacuanha belongs to it; and Sir R. Schomburgk assures us that Indians have been poisoned by using the wood of Evosimia Corymbosa to make spits for roasting meat on. (16.) After this, what becomes of the assertion that the Natural system teaches the physician how to discover in every region the medicines which he requires; and in what position would he place his patient if he relied upon the common statement that all the species in any one natural order of plants are possessed of similar properties? Or that, if we know the qualities of any one, we may calculate with confidence on those qualities being the same in all the other species of the same order? In the order *Liliaceæ* we find associated in a very *unnatural* manner, judging by properties, the Phormium tenax,

the onion, garlick, leek, squill, and aloes. How one of these is to be substituted for the other, upon any fixed principle, surpasses our comprehension.

Then, again, plants the most unlike are found associated in one or other of these natural systems:—

"For instance, the snowdrop with the American aloe; the tulip and lily with butcher's-broom; the mulberry with the fig; the castor-oil tree with the box; chickweed with the gaudy pink and lychnis; the snapdragon and digitalis with the beautiful veronica and globe buddlea; the honeysuckle with the laurustinus and the elder; the lime tree with the corchorus; or the hardy and evergreen ivy with the delicate and lowly moschatel. In an artificial system it matters not how incongruous may be the species included in any class or order; but to find such as the above, and hundreds of others, in systems professing to arrange together such plants as are 'more like to each other than to anything else,' is certainly somewhat of the wonderful." (p. 89-90.)

One of the boasted advantages of the Natural System has therefore no foundation in fact. Dr. Drummond collects many other instances which equally show the absurdity of making this alleged similarity of properties a ground of preference. He also examines the two systems as guides to determine the nature of an unknown plant, showing that in simplicity the Linnæan is decidedly preferable. In adopting it, the student will encounter difficulties; but, as the author observes, these are inseparable from any system of botany.

A most serious objection to the Natural System is, that there is no telling what it really *is*. Every writer has a natural system of his own. Dr. Drummond enumerates about *twenty*, — a fact which shows that the science has been brought into a chaotic state of confusion by the system-manufacturers.

The kind of nomenclature adopted sometimes leads advocates of the Natural System to violate the rules of common propriety. Thus, Dr. Drummond tells us:—

"In the genus Griffithsia, instituted by Agardh in honour of Mrs. Griffiths, so celebrated for her investigation of the Algæ, we have *bearded* Griffiths, *many-cut* Griffiths, and *horse-tail* Griffiths. Agardh also instituted the genus Hutchinsia, from Miss Hutchins, of Bantry, a lady who made many discoveries in Irish Cryptogamic botany; and in Mr. Gray's work we have, among other species of the genus, *long* Hutchins,—*black* Hutchins, — *blackish* Hutchins, — *pitcher* Hutchins,—*stiff* Hutchins,—and (*proh pudor!*) *naked* Hutchins." (p. 75.)

We think that Mrs. Griffiths and Miss Hutchins have good reason to complain of a decided want of gallantry on the part of the naturalists.

The author justly censures the catalogue of unmeaning and uncouth words introduced into the science by Dr. Lindley. We agree with him that it is impossible to see what advantage can arise to botany or its nomenclature from the introduction of the following names among many others similarly constructed:—

"Burmanniads, Mayacs, Phileriads, Pariads, Morads, Juglands, Lardizabalads, Kadsurads, Pangiads, Samyds, Hydrophyls, Sauvagesiads, Vivianiads, Voychads, Theads, Rhizobols, Guttifers, Humiridiads, Francoads, Xanthoxyls, Erythroxyls, Nyctagos, Saururads, Brixads, Chailletiads, Hippocrateads, Reaumuriads, Stilbids, Ehretiads, Salvadorads, Selagids, Gilliesiads, Garryads, Helwingiads, &c." (p. 82.)

That this nomenclature should be employed for the purpose of facilitating the progress of the student, is a strange assumption: it reminds us of the rules of memory suggested by the witty Mr. Matthews—"By the aid of the rules you could remember everything: the only difficulty consisted in remembering the rules!"

All natural orders ought to be founded on striking or evident *external* characters. Jussieu took the seed as the basis of his classification; but "it formed one of sand on which nothing durable can ever rest: and hence the perpetual tinkering, patching, taking away, adding to, or altering in some way or another, his system by every one who undertakes to explain it in writing." (p. 85.)

In the opinion of the author there is no doubt that the Linnæan system is better adapted than any other to lead us to a knowledge of the *names* of plants. When we have found the name, we must refer to some author for the description of properties—a plan which must be equally adopted in taking any natural system for our guidance; for who would wish to swallow ipecacuanha for Peruvian bark, or to eat the New Zealand flax in place of an onion or

a leek? yet a reliance upon the characters of the Cinchonaceæ and Liliaceæ, as indicative of properties and uses, would inevitably lead the strictly consistent botanist into these mistakes. With these defects it is a matter of regret to find that, in the botanical examinations at the University of London, the Natural System, as it is called, with its cumbrous nomenclature, is made the great test of botanical knowledge. The rows of names in *ales*, *oscæ*, and other quaint terminations, are sufficient to bewilder the student; but he must "get up" the Natural System, or he will not pass. This is about as reasonable as demanding of the mathematical student a demonstration of the cycles and epicycles of Descartes.

The only objection we have to this little essay is, that the author betrays unnecessary warmth of language in advocating his favourite system, and in condemning that of Jussieu; but we quite agree with him in his concluding remark—that it is equally worthy of a man's ambition, equally honourable, and certainly more equitable, to attempt the diffusion of knowledge by the easiest means, than to gain the highest name at the risk of destroying all general taste for the cultivation of one of the loveliest of the sciences.

5. Mr. Graham's aim in this work will be seen from the following quotation:—

"Notwithstanding the numerous works on botany that have lately issued from the press, the want of some concise treatise by which the science could be rendered homely and intelligible to the young, has for a long time been felt. In publishing the following lectures, the object of the author is to supply such a want; in endeavouring to effect which he has carefully condensed into six lectures the general principles of the science of botany, in order to form a basis or groundwork for the young beginner, who, by a foundation of this kind, will have no difficulty, at a subsequent period, of entering into more minute details." (Preface.)

Although it is obviously no easy task to condense into a course of six lectures all the facts and conclusions of the science of botany, Mr. Graham has, we conceive, succeeded in presenting to the readers of his "Outlines" in a clear and intelligible form, at least the elements of the science. He puts them in possession of so many of these facts as may serve for the foundation of a more extensive superstructure. By the plates which sufficiently illustrate the text, and by the etymology of the technical terms, which the author has also for the most part supplied,—the work is adapted to the youngest student of this interesting branch of natural history. We therefore do not hesitate to recommend it to the notice of the instructors of youth in general, as well as to all who are desirous of acquiring an elementary knowledge of this useful science.

On the Cure of Cataract; with a Practical Summary of the best modes of operating (*Continental and British*). By Hugh Neill, Surgeon to the Liverpool Eye and Ear Infirmary. Pp. 224. Liverpool: Deighton and Laughton. London: Churchill. 1848.

The principal part of this treatise consists of an analysis of Stoeber's Traité des Maladies des Yeux, the Hygiène de la Vue, by Dr. Magne, and the Traité Théorique et Pratique des Maladies des Yeux, by Dr. Desmarres. To this analysis Mr. Neill has added a few foot-notes of trifling importance; and, in the part treating of Desmarres' views, he has incorporated his own in a way which often makes it difficult to determine what belongs to each. Besides this there are long quotations from Mr. Charles G. Guthrie's work on Cataract, from Mr. Waldie's paper on Chloroform, and from Dr. Simpson's pamphlet on anæsthetic agents, &c. Now, when the work before us is stripped of all these materials borrowed from other sources, there remains but little wherewith to detain our readers.

The author recommends the use of veratria, applied by inunction to the temples, forehead, or nape of the neck, in cases where it is desired to contract the pupil. Its effect, therefore, is the opposite to that of belladonna, which dilates the pupil. Mr. Neill observes:—

"Where nervous energy has become impaired, and the pupil languishes and hangs wide open; by virtue of veratria I have shut up the pupil to its natural size. In some cases I have succeeded in restoring the mobility of the muscles of the iris; and have overcome paralysing effects where the glare of too much

light has acted injuriously on a retina already morbidly debilitated, and rendered insensitive to the stimulus of ordinary light." (p. 196.)

The author's belief is that veratria acts as a stimulant upon the circular muscle of the iris. He mentions also that cayenne and other peppers, as well as the euphrasia or eyebright, have the power to produce transient contraction of the pupil in amaurotic eyes.

One main object of the author is to recommend the cure of cataract by reclination instead of extraction. We shall describe the operation in his own words :—

"The operator, while he fixes—say the patient's *left* eye with his (the operator's) left hand—the process is done thus: and I am supposing that the speculum is not used. The second finger raises the upper eye-lid and fixes it against the eye-brow. The first finger depresses the lower lid. The eye is thus firmly enough fixed: its outer portion is free to be punctured, and there is no impediment to a thorough inspection of the pupil. A *flat* straight needle, with two cutting edges running to a point, is carried, at the eighth of an inch from the cornea, towards the very centre of the eye through the sclerotic. The needle must not be poked into the lens. As soon as it is judged to be behind the *iris*, it should be gently forced to the anterior of the lens, and posteriorly to the iris, *forwards* toward the pupil. Do all gently. Let there be no abrupt or sudden motion. The point of the needle seen in the pupil is now to be depressed, and *pressed down* the face of the lens to its lower edge, and carried back *below the lens* right into the vitreous humor. The needle is then moved horizontally backwards and forwards, so as to cut a free course in the vitreous body for the passage of the lens. All this is a *continuous*, momentary, and essential movement. Attempted otherwise, a laceration of the vitreous capsule is not easily accomplished: and should the membrane be tough, and not lacerated, the lens may be turned topsy-turvy, and tilted into the anterior chamber.

"The needle having made its way through the capsule of the vitreous humor, now comes back to the anterior of the lens. Commence pressure with it, to cause displacement, by resting heavily on the anterior portion of the lens. The lens now moves downwards. The needle presses down also, and the lens begins, technically, to *recline:* that is to say, it turns backwards.

"The needle ought to get on the (now) top of the lens; and away it goes, launched as it were into the vitreous humor. Its position is supine, offering its whole flat surface opposed to the vitreous humor. It cannot rise up: its flatness is also opposed to the retinal portion of the vitreous humor.

"It only remains for the parts to become adapted to their new position, and the case will be as brilliant as the most enthusiastic eye-surgeon could desire." (p. 184-6.)

To the above description of the operation in the author's own language, we shall add his own opinion of its merits—

"Such is my favourite operation for the cure of Cataract by Reclination—not as hitherto described, confusedly, or with needless elaboration in books. In homely language, I will pit hundreds of cases of *Reclination* which I have successfully performed, against the very best cases of *Extraction;* and the eyes of my patients shall show as little injury surgically produced, *aye and less*, than the optics of those who have had the rare good luck to have been 'touched off' by the most dexterous 'Extractor.'" (p. 186.)

We cannot congratulate the author either on his modesty or good taste in making use of this self-laudatory language. It is certainly, as he observes, "homely;" it is in our opinion even a step beyond "homely;" part of it is pure slang. Were this the only instance of such a style, it might be passed over as a slip; but, we regret to say, similar expressions are scattered through the book. For example, in one place, it is stated that "the least bungling will *floor* the operation." Now, we would seriously ask the author, if language like this, employed by a surgeon at the head of an important public institution, be calculated to do credit to the profession to which he belongs?

With regret we must notice another fault in this book, namely, attempts to pun,—a form of writing surely much out of place in a professional work. Such for example is the expression used at page 136, where he remarks that "oblique kerotomy is most *obliquely* preferred by many." Again, at page 163, after a few critical remarks on the derivation of the word Cataract, the author informs us that "in nature there is little in common between the disease of the eye, figuratively designated 'Cataract,' and the cataracts which give majesty and interest to the scenery or landscape of waterfalls, whether on the scale of Niagara, or of the cataract of the Ganges, or the Falls of Clyde.

There is no rushing or precipitate fall in the cataract of surgery!"

Was there ever more ill-advised straining than in the following passage, at page 153, wherein the author speaks of the bad success of operations in the hands of others?

"For my remarks on this part of an interesting subject, I hope I need neither apologise, nor unnecessarily guard myself from misconception by supplemental comment. Against the malice of misrepresentation no man can, nor need, attempt to assure himself. Every soldier on a charge does not forsooth *therefore* transfix his opponent on the point of his bayonet: and in eye-surgery (if I succeed in conveying what I mean as unequivocally as I mean what I say) it is in like manner, that all operators do not merely *because they operate*, necessarily succeed in impaling Cataract with the needle, or in taking it captive by the edge of the knife! What the bayonet is to the foot soldier, so is the Cataract instrument in the tried hands of the expert eye-surgeon. And has not eye-surgery *its* volunteers and young soldiers, as well as the standing army? We must allow therefore for a want of drill and discipline, and for the inexperience of adventurous recruits in the one case; and justly expect more effect from the *experientia docet* of the veteran campaigner, in the other." (p. 153-4.)

Once more we must express our regret at being obliged to point out these grave faults in the work of one who may be, notwithstanding, an excellent practical oculist. But when an author quotes Latin and Greek, and comments critically thereon, it is surely not too much to expect that he shall be able to express himself in his own language with clearness and propriety.

Stricture of the Urethra, its Pathology and Treatment; comprising observations on the curative powers of the potassa fusa in that disease: with cases. By ROBERT WADE, F.R.C.S. Second edition, pp. 247. Churchill.

THE treatment of stricture of the urethra by the potassa fusa, as recommended and practised by the late Mr. Whateley, had been long neglected by surgeons. Mr. Wade, however, some years since, determined to make trial of that remedy in cases of irritable, impassable, and other bad forms of stricture; the success attending his practice was such as to induce him to use the caustic with a degree of boldness, and to an extent which Mr. Whateley had never contemplated. The results of his experience were communicated to the profession about eight years since, and noticed with commendation in the pages of this journal. Since that period Mr. Wade has had a more extended experience of the virtues of the remedy in question, and this further experience has given rise to the work before us. In addition to many very valuable cases, the present edition contains chapters on the treatment of strictures by retention of the catheter or bougie; on the operations for division of the stricture and puncture of the bladder; on the liability of stricture patients to a recurrence of their disease, &c. The work will form an excellent text-book for the student, and the most experienced surgeon may advantageously consult it. It should occupy a place in the library of every one who may be called upon to treat stricture of the urethra.

Hospital and Infirmary Reports.

CHICHESTER INFIRMARY.

Case of Simple Fracture of Tibia and Fibula, treated without Splints.

(Cases reported by T. NEWHAM, Esq. House-surgeon.)

JOHN BENSTEAD, æt. 31, admitted into this infirmary, May 13th, 1849. Walking on the edge of the pavement, his foot slipped from the kerb-stone, and he fell. When admitted, there was no contusion or mark of violence on the limb, nor was it in any way displaced; but, on examination, it was found that the tibia and fibula were both obliquely fractured just below the insertion of the external lateral ligament of the knee-joint.

Treatment.—The leg was laid upon a pillow, which was hard, being stuffed with wool, (which material I have always found best suited to fractures, being at the same time sufficiently soft not to produce pain, from long use, and also elastic, and supporting well the broken limb, and supported on each side by a heavy sand bag), the whole being confined by tapes; the man being, of course, on his back. The formation of the provisional callus proceeded rapidly; and on the 6th of June, three weeks from the time of the accident, the limb was enveloped in a starch bandage, and the patient allowed to walk about.

June 26th.—Discharged cured.

This case has not been selected for its rarity, or for any remarkable feature in its history, but merely to demonstrate the utility of the sand bags, &c., in cases of fractured limbs in adults. This treatment is extensively carried out at Guy's; but I do not remember ever to have seen a fracture there, where the union was so rapid and so good.

In children, of course, from their uneasiness, there would be more difficulty in preserving the position of the limb; but I have seen several instances where the sand bags were much flatter and broader, so as to encircle the part affected, and being well secured by tapes, the child was allowed to tumble about in bed. In these cases rapid union was the invariable result.

CASE II.—*Disease of the Anatomical Neck of the Humerus and of the Elbow-joint — Amputation at the Shoulder-joint—Cure.*

John Longlands, æt. 17, admitted May 22d, 1849, under the care of Dr. Duke. Two years ago he received a blow on the left shoulder, from which he suffered only slightly, and quickly recovered.

Five weeks since, on returning from work in the evening, he complained of severe pain of a throbbing character in the shoulder, which increased during the night to such a degree, that on the following morning a medical man was sent for. From this gentleman's account, it appears that the whole shoulder was tender and reddened, and the pain very severe. Leeches, purgatives, &c., were ordered, but still the symptoms continued with very slight mitigation for a fortnight, when matter formed over the acromial process, and was evacuated. Four or five more depôts were opened in rapid succession, at different points in the upper arm; and just before his admission, one at the insertion of the deltoid, and the other over the external condyle of the humerus.

The appearance of the patient is highly scrofulous, and for his age his development is backward. He is in a state of extreme prostration from excessive discharge of pus, which now amounts to nearly a pint per diem, but apparently of a healthy nature, from the two last-mentioned openings. The arm when moved is exceedingly painful, both at the shoulder and the elbow-joints. Passing a probe into the upper opening (that near the insertion of the deltoid), it seemed to run up on the anterior surface of the head of the humerus, and to touch the glenoid cavity. The sensation conveyed to the hand was that of caries of the head of the bone. The glenoid cavity, however, did not appear to be denuded of cartilage. The surface of the humerus, for two or three inches below the head, was bare, and apparently beneath the long tendon of the biceps.

The elbow was painful upon flexion and extension, but especially upon rotation and percussion of the head: the opening situated over the external condyle could not be traced to the point.

From these symptoms, and from the excessive discharge weakening him daily, Dr. Duke, in conjunction with Mr. Elliott, determined upon operating without delay.

The operation for excision of the head of the humerus was first proposed, but rejected on account of strong suspicion that the elbow joint was also diseased, and also that, provided the head of the bone were removed, it was thought that the lad's reparative powers would not be equal to the task, so as to produce an useful arm. Dr. Duke therefore determined upon the removal of the whole limb at the shoulder-joint, which was accordingly done, Friday, June 1st, 1849.

Operation.—Chloroform having been administered, and speedily taken effect, and the subclavian being easily compressed above the clavicle, an incision was made by a scalpel, from a point over the coracoid process of the scapula in front, extending downwards and backwards to nearly the insertion of the deltoid; then upwards and backwards to the spine of the scapula, thus taking in the whole extent of the deltoid muscle, which was thus completely turned up, and the capsular ligament exposed: this was divided, and the knife carried through the joint. A long catlin was now used to make the under and inner flap: the axillary vessels and nerves being divided of course last. From the first incision to the complete removal of the arm, the time occupied was sixty-eight seconds. The axillary artery was soon secured; and besides this, eight other small arteries were tied. Altogether about ten ounces of blood were lost; and from the effect of this loss, and that of the chloroform, the patient became very low, and almost pulseless, requiring a considerable quantity of wine to restore him. The flaps were now brought together, and merely confined by a strip of plaster.

On being placed in bed the pulse was 98, small and weak. The wound was dressed five hours after the operation. There was not the slightest tendency to hæmorrhage, and the body was quite comfortable. Cold water dressing was laid over the shoulder.

Reaction was fully established about 9 P.M. Pulse 120, but weaker; skin hot and dry; and there is great restlessness.—Tinct. Opii, ℥xx.; Mist. Camph. ℥j. hac vespere.

June 2d.—Has passed a good night. The skin is acting well, and he perspires freely: bowels open once since the operation; pulse

110; tongue slightly furred; shoulder quite easy. Dr. Duke ordered—M. Salinæ, ℥j.; Pot. Nitrat. gr. x. 4tis horis. Cont. cold application. To have lemonade.

Vespere.—Is better. Pulse 100, soft and quick; skin moist and cool; spirits very good.

June 3d.—Continues as yesterday. Pulse 100; tongue furred. The wound was dressed to-day, as it was becoming offensive. A considerable quantity of pus passed apparently from the glenoid cavity. The sutures were taken away. Union by first intention had gone on in the posterior part of the wound. Appetite good; sleeps well.—Cont. Med.

June 5th.—Shoulder dressed again to-day. Very little oozing of pus: pulse 98; tongue clean; bowels open.—To have fish for dinner.

June 6th. — Continues as yesterday. Shoulder dressed every day. Compress and bandage applied over the upper flap.

It may be here mentioned that the last ligature from the arteries came away to-day. That applied to the axillary artery was rather thick, and came away on the *third* day. Not the slightest disposition to any secondary hæmorrhage was however manifested. Pulse 98, and very quick; tongue clean; bowels open; skin acts well.—To have a mutton-chop and half a pint of porter. Intr. Med.

July 5th.—There has been nothing worthy of record happened since the last report: the lad sat up on the seventh day from the operation, and on the twelvth was walking in the grounds of the infirmary. The whole wound is healed, with the exception of two points at its anterior edge, which are about an inch apart, and communicate under the new skin. The appetite is good, and he has regained flesh and strength, and looks very much improved since the operation. He is to be *discharged cured* next week. Ordered—Sol. Argent. Nitr. gr. iij. ad ℥j. to be injected into the small sinus in the shoulder.

State of the arm.—The disease had apparently commenced in the epiphysis, as the bone at that part was carious, and the caries extended partially to the head of the bone, which had however preserved its cartilage intact. Beneath the biceps had existed an abscess extending to the middle third of the arm, and at this point the bone was entirely denuded of its periosteum, and perfectly white. On the outside of the capsular ligament, large portions of bone had been deposited, acting as a sort of stay to the head and neck of the humerus. The whole of the cellular tissue was infiltrated and hardened, down to the wrist. On opening the elbow-joint an escape of pus, amounting to perhaps *two* ounces, took place. There did not appear to be any other disease than ulceration of the cartilage on the heads of the radius and ulna, and on the corresponding articulating portion of the humerus. These parts were partially denuded of cartilage.

Remarks.—There were *two* peculiarities in this case, viz.:—

1st. *The rapid progress of the disease* after its first commencement. As to the injury two years before, I cannot think that it played any material part in the production of the disease.

And 2d. The very short period that elapsed between the operation and the separation of the ligatures. In a part so near the centre of the circulation, one would expect that the clot in the arteries would be much longer in becoming consolidated, at the same time that the surrounding parts become speedily healed, on account of the large supply of blood.

Dr. Duke informs me that he has never seen a case where the ligatures have been separated so early; and I cannot call to mind any similar event. I can only suggest that, in my opinion, this rapid separation of the ligatures depended upon the extreme feebleness of the heart's action during the first forty-eight hours; thus of course favouring, in a high degree, the formation of the clot.

Correspondence.

DEATH FROM A BLOW ON THE EPIGASTRIUM.

Sir,—If you deem the following case interesting or instructive, and worthy of a place in your valuable journal, I shall feel obliged by your inserting it.

On the evening of Friday, July 6, 1849, I was called to see David Bates, æt. 31, who had suddenly fallen in the street whilst fighting. I found him dead, and ascertained that about a quarter of an hour had elapsed since he fell. He was warm and covered with perspiration; his face pale and cadaverous; his eyes closed, and on raising the eyelids the pupils were seen widely dilated.

On Saturday, about nineteen hours after death, by order of the coroner, I made an examination of the body, assisted by Mr. J. P., a surgeon of this town. I send a full copy of my notes of the post-mortem appearances, which Mr. P. agreed with me in considering perfectly accurate.

External appearance.—Escape of bloody serum from the nostrils. Black ecchymosed patch on the bridge of the nose. Contusion under the right ear; slight lividity on the upper part of the chest. Contusion on the left elbow.

On turning the body on the face, about an ounce and a half of dark grumous blood escaped from the nostrils. The trunk and extremities livid, posteriorly, from post-mortem gravitation.

Abdomen.—Viscera in their natural position. Old adhesions of the omentum in the right iliac region. Intestines distended with flatus.

Arch of the colon rather dark ; stomach contained some half-digested matter, and presented numerous ecchymosed points in the mucous membrane of the posterior surface at the cardiac extremity.

Liver rather small, and presented a slightly mottled appearance on the surface.

Kidneys, spleen, and pancreas, healthy.

Thorax.—The lungs collapsed on opening the chest ; were rather darkly mottled, but healthy in texture ; congested posteriorly. Old adhesions between their posterior borders and the pleura on each side.

Heart.—Healthy in every particular: contained very little blood, which was fluid ; no coagula present. The large vessels in the thorax and abdomen healthy. The blood generally in a fluid condition.

Head.—Skull thin. Dura mater slightly congested. No opacity of arachnoid membrane. No remarkable amount of serous effusion. Pia mater on the surface of the brain and in the sulci between the convolutions excessively congested with dark fluid blood. Choroid plexus natural in appearance. No fluid in the ventricles. Substance of the brain healthy, natural in its appearance, and without any lesion.

At the inquest, three witnesses stated that Bates was intoxicated, though not so much so but that he could walk and stand unsupported by others,—that he talked a good deal, and challenged his antagonist to fight,—that in two or three minutes, the combatants being within half a yard of each other, Bates received a left-handed blow, but apparently not a very severe one, in the pit of the stomach,—that he fell on his face—according to the first witness—within half a minute ; according to the second witness, in a moment or two ; according to the third witness, instantly, dead. The first two witnesses also swore that in their opinion he moved his arms in a fighting attitude after being struck, and before he fell, as they thought with an intention of continuing the fight. The third witness, however, swore that there was no action of this kind. On raising him from the ground, which was done immediately by the witnesses, a few drops of blood escaped from his nostrils, but he was dead ; and all the witnesses agreed that no indication of life was observed in him after he fell.

On being asked to give my opinion as to the cause of death, I stated that, inasmuch as the post-mortem appearances did not furnish any other explanation, I unhesitatingly attributed it to concussion of the solar plexus, occasioned by the blow which, according to the evidence of the witnesses, Bates had received in the epigastrium.

Mr. P., the medical gentleman associated with me in making the post-mortem examination, who also heard the general evidence, stated the condition of the membranes of the brain proved a great amount of excitement, and that this alone might have been the cause of death. The jury having heard conflicting medical opinions, gave the benefit of the difference to the prisioner, and returned as their verdict that Bates died from over-excitement.

The opinion expressed by Mr. P. appears to me inconsistent with all medical experience. I think all experienced pathologists admit that in cases where sudden death from violence or accident occurs to an intoxicated person, it is usual to find the pia mater turgid with dark fluid blood, as was observed in this case. This at once disposes of the only appearance existing in the body on which Mr. P. could ground the opinion he expressed. There was no evidence adduced of any extraordinary excitement in Bates previous to fighting : he was drunk and quarrelsome, but showed no symptoms of oppression of the brain. He fell immediately after receiving a blow in the epigastrium ; and the manner of his death—that is, the instant extinction of life—does not accord with our experience of death occasioned by any form of apoplexy, an attack of which coincident with the blow, though quite within the range of possibility, might be fairly considered very remarkable.

I regard the case as an unequivocal instance of death from a blow in the epigastrium. Since such occurrences are not frequent, the case may perhaps be worthy of record in a medical journal ; and it is simply from this view of its importance that I offer it for publication.—I am, sir,

Yours obediently,

J. Yorke Wood.

Bury, Lancashire,
July 20, 1849.

ATTENDANCE ON THE SICK POOR IN CASES OF CHOLERA.

Sir,—May I beg you to insert this note in this week's Gazette, and to state your views on the subject to which it refers ? I wish to direct the attention of the medical officers of all the dispensaries in the metropolis to the serious consideration of the twofold question—Whether the governors and committees of the institutions to which they are attached have any right to insist on their attending cases of malignant cholera as part of their *ordinary* duties ? and if so, whether

it would be right in them to concede such a demand?

From the form in which I have stated the question, you will perceive that I do not hold an affirmative conclusion on the one point to be at all decisive of the other. But for my own part, I maintain most unhesitatingly that even if the dispensary medical officers received, as unquestionably they should, some remuneration for the discharge of their duties, attendance on the victims of such extraordinary epidemics as cholera, the sweating-sickness (which is said to have broken out in France, and may, in that case, revisit England, after an absence of three centuries), and the plague, could not in any fair or *honourable* sense be exacted from them without additional remuneration. How much less, when they receive no acknowledgment for their labours more substantial than a cold and formal vote of thanks once a year? But as very many think medical men fair game—consider theft of their time, and substance, and health, a proper and just economy, and blush at no act of meanness provided only a *Doctor* be the subject it is practised upon—it is well to remind such persons, that till now the duty of the nation to provide some recompense, however scanty, for those who stand between the living and the dead in times of extraordinary Providential visitation, has been admitted as a matter of course. "Till now," I say; for though the remuneration given to the Irish medical men during the late frightful epidemic of typhus was beggarly in the extreme, still the principle was not assailed. Last year, however, when the manifesto of the Board of Health appeared, denouncing cholera hospitals, and recommending that those attacked with the disease should be treated at home, I immediately remarked to my friend and late colleague, Dr. Ballard, that a more ingenious device could not have been hit upon by the most wily diplomatist for quietly transferring to the shoulders of the unpaid dispensary physicians the burden that ought to be borne by the whole community.

That such, in the event of any considerable increase of the prevailing epidemic, will be the effect, if it was not (as I strongly suspect) one of the objects, of the recommendations thrown out by the Board of Health, appears to me highly probable, unless a resolute and combined resistance be offered by those who are threatened with so serious an addition to their unrequited toil. My excellent colleague, Dr. Routh, whose zeal and activity are well known to many, though he has only had three or four cases of cholera, already feels keenly the hardship of having to pay three or four visits every day to each case; in other words, the gross injustice of being required to devote almost the whole of his time to the service of the public, without any return except the prospective one of censure or degradation if he dares to decline attending any case of cholera to which he may be summoned by the letter of a governor. The thing is monstrous, especially when we consider that the authorities in provincial towns are cheerfully paying, in addition to all their expenses, four guineas a week for the services of the students in the metropolitan hospitals.

I am, sir, &c.

A. P. Stewart,
Physician to the St. Pancras Royal General Dispensary.

Grosvenor Street,
25th July, 1849.

Medical Intelligence.

HEALTH OF LONDON DURING THE WEEK.

We have again to notice an increase on the excessive mortality of the previous week. The deaths from all causes, which in three previous weeks were respectively 1070, 1369, and 1741, rose in the last to 1931,—a number which is almost double the weekly average, and exceeds that of the previous week by nearly 200. To compare these results with the deaths from all causes in four weeks, when influenza was unusually prevalent in the last quarter of 1847, it may be stated that the mortality at that time increased in the following numbers: 1086, 1677, 2454, 2416, and in the fifth week continued to decline. The deaths from cholera, which in three previous weeks were 152, 339, 678, rose in the last to 783,—a rate of increase which it will be observed is not so great as in the first weeks of the outbreak. But the deaths from diarrhœa (fatal in a great majority of cases to children), and dysentery, which in three previous weeks were 54, 100, and 146, increased in the last to 238,—showing a more rapid increase recently than the mortality from the malignant form of the disease. In the corresponding week of 1848, the deaths from diarrhœa and dysentery amounted to 187,—a mortality which is almost as considerable as the return of last week. The total deaths from the three diseases in the present Return were therefore 1021, whilst the weekly average of the season is only 92,—a result, when compared with the excess of mortality from all causes, which shows that the aggregate deaths from other diseases do not vary much from the usual amount. Small-pox, scarlatina, and typhus, however, are now under the average, especially the first two of these zymotics; measles and hooping-cough have fallen to the average.

Cholera was fatal last week to 382 males, and 401 females; previous returns showed a majority on the other side. The districts on the south side of the river still form the field on which the disease is most active. The deaths from it, which in this region were in three previous weeks, 93, 192, 443, rose last week to 514. There is a slight decrease in the eastern districts. In the western and northern, comprising Kensington, Chelsea, St. George (Hanover Square), Westminster, St. Martin-in-the-Fields, St. James, Marylebone, Pancras, Islington, Hackney, and Hampstead, the deaths were only 68 against 53 in the preceding week. The districts which show the greatest mortality are—Bermondsey, where 64 deaths occurred last week; Newington, where there were 66; St. George (Southwark), where there were 70; and Lambeth, where there were 111.—*Register-General's Return.*

HEALTH OF NEW ORLEANS.

The cholera, though gradually and steadily declining, still lingers in our city, and we know not when we shall be able to announce its total disappearance from New Orleans. It has not declined as rapidly as did the epidemic which prevailed here in 1832. Still it retains a feeble hold upon our population, as shown by the deaths from this disease for the week ending 17th February, amounting to 64, and for the week previous about 80: thus indicating a diminution of 20 deaths weekly.

About the middle of February we had several days of rainy weather, when suddenly the wind veered round to the north, and we had a heavy sleet, accompanied with ice more than an inch in thickness. The thermometer fell as low as 26° just before sunrise; and even at mid-day, evidences of the freezing were abundant in our streets. We have not been able to learn that this remarkable, this unprecedented cold weather, affected to any serious extent the salubrity of our population: on the contrary, we believe it has had a decidedly favourable influence. During the latter part of February we had our usual mild and balmy weather, which produced a pleasing revulsive effect upon the moral feelings and physical system of the community,—the better prepared to enjoy the change, by contrasting it with the previous cold and unseasonable temperature. Whether the cholera superseded or absorbed our usual winter diseases or not, certainly we have been less afflicted than usual with this class of affections.

During the last two or three weeks, immigrants, chiefly Irish, have been flocking to our shores in great numbers; and, as might be expected, many of those who embark for our port sicken and die during the voyage of ship or typhoid fever,—the result of a crowded state of the vessel, a limited supply of provisions of a bad quality, and neglect of personal cleanliness. It has been our lot to board many of the immigrant ships when they reach our port, and we are surprised that so little sickness and so few deaths are witnessed among them.

In the first place, these vessels are too much crowded: they should not be allowed to bring more than one-third their usual number. The shipping agents at Liverpool and the ports of Ireland, regardless alike of the comforts and lives of these people, drive them on board the vessel, like "sheep for the shambles," too often illy provided with the comforts necessary for sustaining healthful existence, and many of them, at the time of their embarkation, with the seeds of disease in their systems.

Is it astonishing that disease should be generated and propagated among them during a long and boisterous voyage across the Atlantic? Strange indeed, with their well-known want of cleanliness, if some infectious disease did not consign many of them to the bosom of the ocean, far from the sea-girt shores of their beloved Erin. It has been maintained by some English and Irish writers, that typhus is a disease peculiar to the Irish,—that it should, in the language of an old sea captain, be called "Irish fever," because this people, from their total want of cleanliness, and habits of life, carry it with them into almost every part of the world. Certain it is, it cannot be developed and propagated to any extent in localities where filth does not abound.—*New Orleans Med. and Surg. Journal.*

CHOLERA IN THE UNITED STATES.

According to the latest accounts received from North America, the ravages of the cholera had not ceased nor diminished. At New York the rate of mortality was still increasing; and quite a panic had been excited amongst the higher ranks of the city. Mr. Reyburn, a well-known cotton broker in Wall Street, D. B. Ogden, a distinguished practitioner at the bar, and others, had become victims to the disease, besides hundreds of the lower classes; and it is observed that the variations of the atmosphere had been most unusual. In twenty-four hours a difference of twenty degrees was experienced; and whilst the heat of the 15th was the most intense known for ten years, the two days following were precisely the reverse. Beyond the limits of the city, however, in other parts of the United States, the country appeared to enjoy tolerable health, with the exception of certain latitudes, such as St. Louis and Cincinnati, which appear to suffer more than any other places.

THE CHOLERA AT BRISTOL.

The disease upon the whole appears to be on the decline; and, as will be seen by the subjoined official report, returned by the Committee of Health, there has been a marked decrease in the numbers of cases and deaths in the districts of the old city which are within the jurisdiction of the corporation of the poor. The following is the return:—

	Diarrhœa.	Cases approaching Cholera.	Cholera.	Deaths.
July 28 . .	26	2	7	6
,, 29 . .	33	1	5	4
,, 30 . .	18	0	0	3
Total . .	83	3	12	13

This return, as compared with that of the three days preceding, exhibits a decrease of 16 in the cases of diarrhœa, 2 approaching cholera, 17 cholera, and 1 death. The total returns from the commencement, exclusive of private practice, have been—diaarhœa, 2,407; approaching cholera, 101; cholera, 403; deaths, 125. Clifton and the upper districts of the town have as yet been unvisited by the disease.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

At the last Quarterly Court of Directors of this Society, it appeared from the report of the acting treasurer, Dr. Wm. Merriman, that during the last financial half year, ending on the 20th of May, 1849, the following donations had been received, principally at the annual dinner on the 21st of April,—viz. H.R.H. The Duchess of Gloucester, £10; the Society of Apothecaries, £15. 15s.; Sir Charles M. Clarke, Bt. (President), Sir Richd. Sutton, Bt., H. Tudor, Esq., R. Stephenson, Esq., Dr. Richd. Bright, Wm. Pennington, Esq., Thos. A. Stone, Esq., Dr. Alex. J. Sutherland, each £10. 10s.; the British Medical Association, £10; Mrs. Tudor, J. T. by Dr. Lever, Dr. Joseph Arnould, Dr. Lemann, John Hunter, Esq. (late acting treasurer), Thos. F. Chilver, Esq., T. Renolds Jackson, Esq., John Propert, Esq., each £5. 5s.; Sir Jas. M'Grigor, Bt., Wm. Hunter Baillie, Esq., Martin Ware, Esq., each £5; Rev. Charles Clarke, Dr. Conolly, Dr. Locock, R. Blagden, Esq., W. S. Burton, Esq., J. E. Sanderson, Esq., H. P. Fuller, Esq., Thos. Hammerton, Esq., Geo. Beaman, Esq., James York, Esq., each £2. 2s.; Rev. S. Wix, Rev. H. Penny, Bransby B. Cooper, Esq., E. A. Lloyd, Esq., Chas. Law, Esq., Miss Merriman, Edmund C. Johnson, Esq., L. Freeman, Esq., R. Stocker, Esq., G. J. Squibb, Esq., John Clarke, Esq., Charles Alexander, Esq., Dr. Theos. Thompson, each £1. 1s.

UNIVERSITY OF MISSOURI.

Thirty-eight students of the medical department of this University were recently graduated, with the degree of doctor of medicine; five admitted *ad eundem*, and honorary degrees were conferred on Drs. Henry C. Wright, of Missouri; J. W. Hollowbush, of Illinois; G. Jayne, do.; W. B. Maxon, of New York; and Herod W. Hudnell, of Missouri. The discourse of Thomas Barbour, M.D., Professor of Obstetrics, &c., on the occasion, was in keeping with his reputation for strong practical good sense, and it appears to have been received with much satisfaction. It is replete with beautiful passages, wise suggestions, and abounds with those elevating sentiments on which professional reputation and usefulness necessarily depend.—*Boston Med. Journal.*

PRESENTATION OF DR. BIRT DAVIES'S PORTRAIT TO QUEEN'S COLLEGE, BIRMINGHAM.

The Council, Professors, and Tutors of Queen's College, and upwards of 100 students, partook of a splendid *déjeûner* in the dinner-hall on Friday last, on the occasion of the presentation of the Portrait of Dr. Birt Davies to the Institution. The chair was occupied by the Vice-Principal, the Rev. Chancellor Law. Letters expressive of regret at unavoidable absence were received from the Right Hon. the Principal, the Earl Howe, the Lord Bishop of the Diocese, Richard Spooner, Esq., M.P., G. F. Muntz, Esq., M.P., William Scholefield, Esq., M.P., and other gentlemen. We regret that our space does not allow of our inserting the address delivered o nthe occasion by the Rev. Vice-Principal.

NATIONAL INSTITUTE OF MEDICINE AND SURGERY.

Our readers will perceive, by an advertisement in our columns, that the Annual General Meeting of the Members of the National Institute of Medicine, Surgery, and Midwifery, is appointed to take place on Wednesday next at the Hanover Square Rooms, at 7 P.M. precisely.

OBITUARY.

On the 27th inst., at Stockwell, aged 36, Mr. Benjamin Kealley, of Little Newport Street, Leicester Square, surgeon.

On the 28th ult., John Goldwyer Andrews, Esq., of St. Helen's Place, London, and Glanbrydan, Carmarthenshire, senior surgeon of the London Hospital, and a member of the Court of Examiners of the Royal College of Surgeons.

Selections from Journals.

ON THE IMPURITIES OF CHLOROFORM AND THE PROPERTIES OF METHYLIC CHLOROFORM. BY MM. SOUBEIRAN AND MIALHE.

Under the name of chloroform, two liquids, the chloroform of alcohol and the chloroform of the spirits of wood, are sold as identical, although derived from different sources; and under this assumption the one has been substituted for the other. Chloroform which is obtained by the action of hypochlorite of lime on spirit of wood, or methylic alcohol, may be called methylic chloroform. It possesses apparently the same physical characters as the normal chloroform (obtained from alcohol), but it has a nauseous and empyreumatic odour. Its density is less than that of ordinary chloroform; the latter being 1·496, the former 1·413. The inhalation of methylic chloroform is followed by general indisposition, headache, persistent nausea, and sometimes by vomiting.

With these differences in their properties it is clear that either they differ entirely in composition, or that some foreign body masks the properties of one. The latter hypothesis is the better founded: by repeated distillations of methylic chloroform from chloride of lime, it was found that after each distillation the residue contained a certain quantity of a peculiar oil, which is readily separated by water, and which may be obtained in the proportion of about 1-16th by weight from some specimens of methylic chloroform. This new substance, which is at first of a yellowish tint, becomes colourless by successive distillations: it is lighter than water; it possesses a strong and peculiar empyreumatic odour, recognisable as that which characterises the methylic chloroform. Its distillation commences at a temperature of 185° F.; the temperature then steadily rises to 271° F., indicating the presence of several distinct compounds. This oil is highly inflammable, burning with an abundant smoke, the chlorine at the same time being evolved. By repeated distillation methylic chloroform can be completely freed from this oil, which is proved by its remaining colourless when it is tested by concentrated sulphuric acid. This acid, in decomposing the oil, indicates its presence by producing a deep reddish-brown discolouration of the chloroform containing it. The chloroform purified from this foreign oil is found in every respect identical with ordinary chloroform; whence it is inferred that there exists essentially but one species of chloroform. But it must be added that it is almost impossible to separate entirely every trace of this oil.

By an analogous examination of the chloroform of alcohol, it was found that an aromatic oil could be separated, but in the extremely small proportion of about 1 part in 1000. This aromatic oil differs essentially from that procured from methylic chloroform. Its density is greater than that of water; it has an acrid penetrating odour *sui generis*. Like the former, it appears to be composed of several different substances, for the temperature rose during ebullition from 153° F. to 242° F. These different compounds are doubtless portions of chloroform in states of transition to the condition of chlorides of carbon, although it has not yet been established by rigorous analysis wherein the reactions consist which give rise to their combinations. It follows, therefore, that it is highly important to separate these foreign bodies, by distillation, from chloroform; but care must be taken to stop the distillation a short time before its termination, lest similar compounds be formed by the very process employed to avoid them.

There remains a physical property of chloroform sufficiently curious to deserve notice, which has not hitherto been pointed out; this is, its *solidification* by the cold produced during its spontaneous evaporation. When chloroform is thrown upon a filter, a large proportion passes through,—while another portion, spreading to the edge of the paper, produces by its own evaporation white silky tufts, which preserve their form for several seconds. This property also exists in concentrated hydrocyanic acid.—*L'Union Médicale*, July 5, 1849. χ

ON THE EFFECTS OF CAUTERIZATION IN CONTROLLING INOCULATION BY POISONS.

M. Max. Parehappe, from his experiments, concludes that the phenomena of poisoning produced by the inoculation of nux vomica may be arrested by amputation or cauterization of the part, even when the symptoms have reached a high degree of intensity, and after contact of the poison for from twelve to seventeen minutes: that a close analogy exists between the phenomena produced by animal virus and other poisonous substances, notwithstanding the great and real difference observed in the immediate and remote effects of their inoculation: that the length of time occupied in the stage of incubation by the poison of rabies, affords reason for assuming that the transmission of its morbid influence to the nervous centre may be as surely arrested by destruction of the living tissues, as are the phenomena produced by nux vomica, and which in character they much resemble.—*Comptes Rendus*, Jan. 1849. χ

TOPOGRAPHY OF YELLOW FEVER.

We find yellow fever in its most malignant form in the West Indies, along the gulf coast of Mexico, as at Tampico, Vera Cruz, &c.—all of which lie within the belt defined above as experiencing the greatest degrees of heat. We find it also extending south of this, as far as 5° of north latitude, and north, to New Orleans, Mobile, and Charleston. It also prevails as an endemic on the western coast of Africa. But, although its locale there is without the above limits, yet thermometrical observations show a temperature equal, if not greater, than that of the West Indies. It has also been met with in Baltimore, Philadelphia, and New York; but only when the temperature of these places was equal to that of those visited by it—the average being 80°.

It has been urged by the advocates of the tellurial origin of yellow fever, in support of their views, that the disease is not met with on the eastern coast of Africa, or in the East Indies, though in the same latitude with the western coast and the West Indies, where the disease is so prevalent. The difference in effect, say they, must be owing to some difference in the soil. But this argument is more specious than solid. Very little is known of the eastern coast of Africa. While the western coast carries on an extensive trade with European nations in gold-dust, ivory, and slaves, and is also the seat of two flourishing colonies; the eastern, in the same latitude, is seldom visited by Europeans. So little, indeed, is known of it, that the existence of the Lupata mountains, a chain laid down on most maps as running parallel to the coast, still admits of dispute among geographers. The Portuguese settlement of Mozambique, situated between 10° and 20° south latitude, is the only part occupied by Europeans. And, although we have no accurate description of its climate, yet we have the general fact stated, that it is so unhealthy that "at an average of one hundred soldiers, seven only survive a residence of five years." (*M'Culloch's Geograph. Dic.*, art. Mozambique. See also *Julia sur l'Air Marecageux*, p. 14.)

But even were the fact established that the disease is not met with on the eastern coast of Africa or in the East India Islands, though situated in the same latitude with the West Indies, Vera Cruz, &c., it does not militate against the theory here advanced. The same latitude does not imply the same temperature. Temperature is affected by other agencies, as the nature of the soil, the prevailing winds, the quantity of moisture, the electrical state of the atmosphere, elevation, and the physical character of the adjacent countries and seas. The influence of these is very great.

It has often been observed that the crews of vessels, lying at some distance from a malarious coast, if they sleep on board of the vessel, remain healthy; while those of them who may happen to remain over night on shore are attacked by the disease. This has been explained by the disciples of the miasmatic school by saying that the poison is destroyed in passing over a body of water. As to the extent of water necessary for this purpose they are not agreed. Sir John Pringle and Sir Gilbert Blane found eight or nine hundred yards sufficient in the neighbourhood of Walcheren. The former, however, found five miles not enough on another occasion. Lind makes three miles the maximum to which it will travel; while M'Culloch thinks it may be carried from Holland to England, or even to Scotland. A more philosophical explanation of this fact is furnished by a reference to the temperature of the sea and of the land. — *American Journal of Medical Science*, January 1849.

EFFECTS OF THE MORAL TREATMENT OF HYSTERICAL FITS.

A young lady, who had met with a very severe disappointment, was placed under our care. She was 23 years of age, and hereditarily predisposed to the disease on both sides. It manifested itself by an excited state of mind, with startings and restlessness, and she had frequent hysterical fits. Every attention had been paid to her health before she quitted home, but having attempted to throw herself out of window, it was deemed proper to remove her from the scene of her excitement. She was cheerful and clever, and very susceptible of admiration. When she first came, she stated that her fits were so frequent that it was not right for her to go to church, but as they were really not violent, we observed to her that it was always the rule of the house to go to church, and that if the fit came on there, we should be obliged to call for the assistance of the beadle to take her out, and she would thus make herself very conspicuous. After the service of the first Sunday, she observed, on coming home from church, that she was very nearly attacked indeed; and it was remarkable that she never had any fit at these times afterwards. We took courage from this, and hoped the time would come when the fits would disappear, not only at church, but altogether, by a similar method of treatment. One day, while at dinner, her knife and fork dropped suddenly into her plate, and she was simultaneously upon the floor. There were several at the table, and the servant was requested to give no heed to the lady. After a few minutes had passed away, a gentleman who was at the table, whose

pharmaceutical knowledge would never make his fortune, feeling a little nervous about the issue of the case, rather anxiously suggested that she should have some *Epsom* salts,—meaning, no doubt, to say smelling salts, given to her. This was quite enough. She laughed very much, and resumed her place at the table, and all went on as before. And it is very pleasing to be able to add, that for the few months longer she remained with us, she experienced no return of the fits either at church or at home; her irritability and oddness of manner went off, and she continued well. This is now eighteen years ago, and there has been no actual return of the threatened malady, though she has been extremely nervous at times, many sorrows and trials having attended her. If these fits had been neglected or encouraged by bad management at the first, the probability is she would, with all the predisposing circumstances of the case, have been the subject of insanity at the present time. —*Dr. Burnett on Insanity.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

A Dissertation upon Dislocations and Fractures of the Clavicle and Shoulder-joint. By Thomas Callaway, F.R.C.S. &c.

Wilde's Closing Years of Dean Swift's Life. 2d Edition, enlarged.

The History of Cholera in Exeter in 1832. By Thomas Shapter, M.D. &c.

The Dublin Quarterly Journal of Medical Science. No. 15, August 1849.

Monthly Journal and Retrospect of the Medical Sciences. No. 10, August 1849. Edinburgh and London.

London Journal of Medicine. No. 8, August 1849.

Pharmaceutical Journal. Vol. 9, No. 2, August 1849.

Journal of Public Health. No. 22, August 1849.

Dublin Medical Press. August 1, 1849.

The Boston Medical and Surgical Journal. July 1849.

*** We wish to call the attention of the Editor and the publishers of this journal to the fact, that while all the other American periodicals reach us free of postage, this is invariably charged with postage at a higher rate than we should pay for a heavy book in England. This notice may probably induce them to apply a remedy.

Gazette Médicale. 28 Juillet, 1849.

L'Union Médicale. Samedi 28 et Mardi 31 Juillet, 1849.

La Presse Médicale. 29 Juillet, Bruxelles.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, July 28.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	689	Males....	952	Males....	513
Females..	624	Females..	979	Females..	495
	1313		1931		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1931	1008
Specified Causes	1930	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	1173	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	38	36
3. Brain, Spinal Marrow, Nerves, and Senses	126	115
4. Heart and Bloodvessels	45	38
5. Lungs and organs of Respiration	86	81
6. Stomach, Liver, &c.	75	68
7. Diseases of the Kidneys, &c.	10	8
8. Childbirth, Diseases of Uterus, &c.	11	11
9. Rheumatism, Diseases of Bones, Joints, &c.	7	6
10. Skin	1	1
11. Old Age	34	32
12. Sudden Deaths	16	8
13. Violence, Privation, Cold, &c.	38	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	3	Convulsions	41
Measles	30	Bronchitis	32
Scarlatina	32	Pneumonia	39
Hooping-cough	27	Phthisis	121
Diarrhœa	242	Lungs	8
Cholera	783	Teething	13
Typhus	37	Stomach	8
Dropsy	16	Liver	12
Hydrocephalus	34		
Apoplexy	28	Childbirth	5
Paralysis	17	Uterus	4

Remarks.—The total number of deaths was almost double the weekly summer average, and exceeds that of the previous week by nearly 200, while Cholera likewise is on the increase. See general remarks on the state of the public health, page 216.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·59
,, ,, ,, Thermometer[a] ..... 58·9
Self-registering do.[b] .... Max. 88·2 Min. 46·8

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 2·15.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was generally below the average of the month.

NOTICES TO CORRESPONDENTS.

Dr. Snow's paper has come to hand, and will have early insertion, as well as that of Mr. Liddle.

Mr. C. N. Spinks's communication has reached us.

The Report of the General Medical Annuity or Relief Fund Society, and that of the Montrose Lunatic Asylum, have been received.

The papers of Dr. Dick, Dr. Kerrison, Mr. George, and Mr. Clapp, in our next.

Lectures.

CLINICAL LECTURE ON SPURIOUS ANEURISM.

By John Adams, Esq.
Surgeon to the London Hospital.
(*Communicated by* Mr. Beale.)

Martin Stafford, æt. 17, was admitted into the London Hospital on the 13th of July, under the care of Mr. Adams, with a spurious aneurism of the ulnar artery.

He states that about two months ago, whilst at sea, he ran a sharp knife into his wrist. A stream of blood immediately escaped at the time, which was stopped by pressure, and the wound soon healed. Soon after he observed a throbbing tumor in the situation of the aneurism; and on arriving home from sea he applied to the hospital for relief.

There was found on admission a distinctly pulsating tumor on the wrist over the ulnar artery, about the size of a large common nut, the pulsation being synchronous with that of the radial artery. As there could be no doubt about the nature of the case, Mr. Adams determined to attempt the cure by pressure.

July 20.—Compresses of lint were applied over the aneurism, and in the course of the ulnar artery above the tumor; a bandage was used over the fingers and hand, and a cold lotion was ordered: he was directed to keep quiet in bed, and was put upon low diet.

July 22d.—In consequence of considerable pain at the wrist, the bandages were removed, and the tumor was found still pulsating. Slighter pressure was now made over the tumor, and this was extended over the ulnar artery for some distance above as well as over the humeral artery at the bend of the elbow: the whole limb was carefully enveloped in a bandage which extended as high as the axilla. After this he could not perceive any throbbing in the tumor.

24th.—The bandage getting loose it was removed, and the tumor was found much diminished in size, with scarcely any perceptible pulsation.—The compresses and bandage were re-applied.

27th.—The apparatus being removed, the pulsation was found almost to have ceased.—To continue as before.

28th.—The bandage was again removed; slight pulsation was found to have reappeared.—Pressure was again applied.

31st.—Very slight pulsation in the aneurism.—To continue as before.

August 2d.—There is still a trifling pulsation perceptible in the swelling.—Ordered to continue the same.

Gentlemen,—The foregoing case is one of considerable interest, and I have brought it before your notice because the subject of aneurism is of great importance, and one on which you ought to have definite ideas. I cannot say that aneurisms are of unfrequent occurrence, but certainly those demanding surgical interference are not so frequently presented to us; and I therefore gladly avail myself of the opportunity the case affords to make a few general observations on the subject. My object is to instruct the junior pupils, and I find this to be the more requisite because I perceive too great a tendency among students to rely for their information on class-books of surgery, rather than on personal observation of cases: and it generally happens, when I examine a pupil previous to his going to the College of Surgeons for examination, that I find his answers given according to some presumed authority of the description alluded to. It is much better, I assure you, to learn by your own experience than to rely solely on books, which, however good in their way, can never supply the place of actual observation. What, then, do we understand by the term aneurism? Its derivation implies its meaning: it is a dilatation, and is derived from the Greek word ἀνευρύνω, to dilate; it is in fact a dilatation of an artery. But there are various kinds of aneurism: thus, we have true and false aneurism, circumscribed and diffused, varicose aneurism, aneurismal varix, and spurious or traumatic aneurism. By true aneurism you understand a simple dilatation of the coats of an artery; by false is implied a dilatation of an artery with a giving way of one or two or all its coats; by varicose aneurism is meant an aneurismal sac communicating with a vein; and by aneurismal varix is understood a direct communication between a wounded artery and vein, by which the blood is pumped into the vein, and thus produces a varix of the vein: it is usually the consequence of venesection, and generally, of course, happens at the bend of the elbow. The varicose aneurism is not invariably so situated—at least, according to the strict definition of the word; for it happens occasionally that an aortic aneurism bursts into a large vein, as the pulmonary vein, or vena cava; and in this way a varicose aneurism arises: this, however, is speedily fatal. I should not omit to mention that there is a disease called aneurism by anastomosis, which is also included in the category of aneurisms.

An aneurism may be defined to be a pulsating tumor communicating with an artery;

and this definition will answer for all ordinary purposes of definition; but I had rather define it to be a dilatation of an artery, as you may have pulsating tumors communicating with an artery, which are not aneurismal. Thus a medullary sarcoma will sometimes receive not only an impulse, but a positive pulsation from its arteries communicating with the main artery of a limb, and yet it is not an aneurism.

What, then, are the signs of aneurism?

There is a tumor, pulsating synchronously with the heart's action, connected with an artery. If you press it firmly, unless the contents of the sac be coagulated, you can succeed in emptying it; there is a peculiar thrill—difficult to describe—felt when pressure is made, and the impulse is usually much greater than in the adjacent artery. If the stethoscope be applied, a bruit is usually audible: these are the common signs of aneurism. I wish especially to direct your attention to the fact of the inordinate impulse, to which I have alluded, as demanding some brief consideration;—to what is this owing? Why should the impulse in an aneurismal sac be greater than in the healthy artery? It is easy to understand why it ought to be quite equal, but it is actually greater, and the reason is this — and here allow me to allude to the anatomy and physiology of the arteries:—An artery is made up of three coats—a serous, an elastic coat, and a cellular tunic. The first is of use in facilitating the passage of the blood; the last gives strength to the blood-vessel, and the elastic coat possesses the faculty of resisting the action of the heart, and, by its elasticity, of converting the stream of blood which is sent out in jets into a continuous one. This action of the elastic coat of an artery is familiarly illustrated by the common fire-engine, where the stream of water which is pumped in in jets, is made to pass out continuously by the elasticity of the air in the receiver of the engine. Let us now look to the heart's action: the power of the heart is enormous: it is very difficult to estimate it, although attempts have been made to do this; and Borelli estimated it as equal to 180,000 pounds. No doubt this is a great exaggeration; but some idea may be formed of its power by comparing it with other muscles whose power is readily appreciated: thus it must be remembered that the muscular tissue of the heart is of a remarkably firm character, devoid of fat, and almost destitute of cellular membrane. Now, if we take the left ventricle of the heart and weigh it, and compare its weight with that of another muscle—say the biceps flexor cubiti—some approximation to an estimate of its power may be formed. Now, the elastic or resisting coat of the artery being in aneurism either greatly weakened or wholly destroyed, the impulse of the heart's action comes down at once upon the aneurismal sac with enormous force, giving rise to the increased pulsation in the part, and of course tending to extend the dilatation in all directions; thus dealing destruction on the parts around.

It is absurd to say that under the circumstances alluded to there is an *increased action* of the arteries: it must be obvious that there is a diminished action—just, in fact, as there is in inflammation. It is from want of attention to the physiology of the arteries that such erroneous ideas are formed, and, by common parlance, perpetuated.

Treatment.—What, then, is to be done in aneurism? I am now alluding to such as are circumscribed, and I shall dwell on those of the spurious class presently. In other words, what is the object we have in view in the attempt to cure aneurism? Some may say our object is, of course, to stop the circulation of blood in the diseased artery; and no doubt that is the ultimate end of our endeavours; but our primary object is to induce coagulation in the aneurismal sac, and this is to be accomplished either by pressure or by placing a ligature on the artery above; by either of which proceedings we do not stop the circulation, because we find that that is speedily restored by the collateral anastomosing branches. If you determine to apply pressure, you do not apply it to the diseased part itself, because there is little prospect of succeeding by acting immediately on an artery where the tunics are diseased, although it does occasionally happen that even in this manner you may succeed in effecting a cure; but I am endeavouring to inculcate principles on which to act: the pressure is to be applied to the artery at a distance rom the tumor, and this will take off the momentum of the heart's action, and will thus favour the coagulation of the blood in the sac. This is a plan very strongly advocated, and frequently pursued with the greatest success. This object being then accomplished, the artery will become gradually obliterated at the seat of the disease.

As to the treatment of spurious aneurism,—such, indeed, as the one just detailed to you,—you may either attempt the cure by pressure, or, failing in that, you may tie the artery above the disease, or you may cut into the sac and put a ligature above and below it. If you apply pressure, you act somewhat differently to what you do in the common false aneurism; for you may apply your pressure immediately to the sac itself, as the coats of the artery are not diseased. Let us, then, consider first what the condition of the coats of an artery is in this disease. A man receives an incised or punctured wound in an artery, and, by the

application of pressure, the hæmorrhage is stopped, and the wound heals. In the course of two or three days he perceives a pulsating tumor in the situation of the original wound, and a spurious aneurism is established. In the formation of this aneurism one of two things has happened: either the blood has formed formed for itself a circumscribed space communicating with the artery, the parts around which have become condensed into a sac, or else a cicatrix has been formed by the exudation of plastic lymph between the edges of the wound in the vessel, and this has gradually yielded, so as eventually to give rise to the formation of a sac, thus composed partly of this expanded cicatrix, and partly by the yielding coats of the artery.

Let me, however, briefly speak to you on the subject of wounded arteries in reference to the case under our consideration. The accident of wounding an artery in the simple operation of bleeding is not one of very unfrequent occurrence; and I always make a point, when examining a student previous to his going to the College, to ask—"Pray, sir, what would you do if you had unfortunately punctured the brachial artery in bleeding?" "Oh, sir, I would cut down upon it and secure it above and below the wound," is not an uncommon answer. Now to this I reply that "You are to do no such thing; for consider the difficulties of acting as you say: you are probably at a distance from home, with no assistance at hand, and the cutting down on an artery of the size of the humeral, with no one at hand to control the hæmorrhage, would be attended with the most serious resnlts; besides which there is no necessity for so hazardous a proceeding: the artery is healthy, and, by careful treatment, the opening in it may be cured." Do not slur the case over as if nothing had happened, and leave it to chance, as I have seen done occasionally, and to the eventual injury of the patient: for I well remember the case of a man who lost his arm in consequence of such gross misconduct; but proceed in the following manner: roll up a sixpence or any firm body in a piece of lint or soft rag, and place it over the wound, having accurately squeezed the edges of the wound together, and then, by carefully adjusted pressure carried a little above and below the wound in the course of the radial ulnar and humeral arteries, to diminish the impetus of the blood, the arm being bandaged to a splint, you may often succeed in completely curing the injury, and in preventing the formation of spurious aneurism. At any rate, you will get a closure of the wound of the integuments, and if an aneurism forms you will then have time to ponder over the necessary treatment of such a case. This treatment is not, however, always to be followed in wounded arteries, many of which it is better to tie at once.

To proceed now with the treatment of spurious aneurism, I say you may often cure them by pressure applied immediately to the sac itself; and this brings to my recollection two cases which occurred to myself, and which strongly bear on this subject. About three or four years ago, there were two cases of spurious aneurism from bleeding, admitted into the hospital within a short time, and the management of these fell to me. One was the case of a girl, and the other of a young man. It was at the time when the employment of the method of cure by pressure above the seat of the disease was so much advocated, and I thought them fair cases for trial: I could not succeed, however, in compressing the humeral artery at all satisfactorily, for the artery rolled from under the instrument, and the median nerve became compressed against the bone, causing great pain and annoyance. I therefore gave it up, and tied the humeral artery in the middle of the arm successfully. In the next case I was equally unsuccessful in the application of pressure above the seat of the disease, and proposed to tie the humeral artery; the man, however, decamped, and got under the care of a gentleman who had formerly attended the surgical practice of this hospital. I one day was meeting this gentleman in consultation, when he asked me if I remembered the case I have just mentioned, for he said, I have quite cured him by pressure: he further said, "that the reason I adopted the plan of treatment by pressure, was because in my pupillage, at the London Hospital, I had seen a similar case under Mr. Headington treated successfully by similar means."

You must apply a compress over the aneurismal sac, and this should extend some distance above in the course of the artery implicated: you are then carefully to bandage the fingers and thumb, and then carry your bandage as high as the axilla, so as to give uniform support to the entire limb, except that a little more pressure is exerted upon the sac and artery connected with it: you direct the patient to keep his arm perfectly quiet, and raise it on an inclined plane: in a short time you will find the pulsation diminish, and the cure will progress. As to the mode in which the cure takes place, it must depend either on the obliteration of the artery at the seat of disease, or else the coats of the artery contract to their original dimensions, and the vessel resumes its natural condition.

If pressure does not succeed in arresting the progress of the disease, the artery must be tied above the tumor, or you may cut into the sac, and tie the artery above and below; for myself, I prefer the former me-

thod, and I shall pursue it in this case if I find no progress from the application of pressure. You must, however, recollect, that even the ligature upon the artery above will not always be sufficient, as considerable pulsation is very likely to return in the aneurismal sac after the ligature; the anatomical disposition of the ulnar artery will readily afford you an explanation of this phenomenon: under these circumstances the employment of slight pressure, after you have taken off the impetus of the blood by the ligature, will in the majority of instances readily effect your object. I shall defer the consideration of other forms of aneurism until some future occasion.

I shall pursue this subject in my next lecture.

Original Communications.

ON THE

INVESTING FIBROUS MEMBRANE OR FASCIA OF THE HEART.

By Robert Lee, M.D. F.R.S.

Fellow of the Royal College of Physicians, London; Physician to the British Lying-in Hospital.

It was an opinion entertained by Haller and some other distinguished anatomists towards the close of the last century, that the muscular substance of the heart has no nerves, and that its contractions do not depend upon nervous influence. In 1792, J. B. J. Behrends, a pupil of Professor Soemmering, published a memoir, which was entitled "Dissertatio qua demonstratur Cor. Nervis Carere, in which it is affirmed, in the most positive and unqualified terms, that not a single nervous filament is distributed to the muscular structure of the heart. "Ac primo quidem nervorum cordis examini scrupulosius intendens," he says, "tum observando tum analogice concludendo, didici nullos omnino *neuros* ne surculum quidem in ipsum cordis carnem dispergi." An engraving is given, in which the trunk and a few of the principal branches of the left coronary artery are represented as supplied with nerves from the par vagum and great sympathetic. In 1794 this striking error was exposed by Scarpa, who represented, in his splendid engravings, branches of nerves passing from the par vagum and great sympathetic to the heart, and accompanying the coronary arteries to its apex. In these figures only a few small filaments of nerves are represented on the human heart which proceed to the muscular structure, and which do not accompany the coronary arteries; but in one of the engravings of the heart of the ox, large branches are represented passing obliquely across the blood-vessels on the muscular fibres of the heart. On one of these branches accompanying the left coronary artery there is a distinct ganglion or ganglionic enlargement. In the Plates of Mr. Swan, published in 1834, only a few branches of nerves are represented which accompany the trunks of the coronary arteries.

M. Chassaignac, the translator into French of Mr. Swan's work on the Nerves of the Human Body, asserted in 1838 that the existence of nerves in the heart, independent of the blood-vessels, had never been demonstrated: "L'examen anatomique n'a constaté jusqu'à present dans le cœur, que des nerfs arteriels: l'existence de filets nerveux, independantes des vaisseaux, est encore à demontrer." (p. 23).

In 1845 several anatomists in this country asserted that the uterus has no ganglia, and only a few small filaments of nerves, like sewing threads, which they affirmed do not enlarge in the slightest degree during pregnancy; and in support of this opinion, the heart was adduced as furnishing a striking example of a muscular organ acting without interruption from the beginning to the end of life, though very sparingly, or not at all, supplied with ganglia and nerves. None of these anatomists themselves had ever dissected the nerves of the heart, and the plates of Scarpa and of Swan furnished the only evidence they could adduce in support of their opinion that the muscular substance of the heart, like that of the uterus, is almost entirely destitute of nerves.

In September, 1846, being dissatisfied with this evidence, I resolved to appeal to nature, and proceeded to dissect the nerves of the heart immersed in alcohol, as I had done those of the uterus, with magnifying powers of six and twelve diameters. The investigation was carried on during two years, and from the examinations which I have made of the nerves of the healthy and mal-

formed fœtal heart—of the hearts of birds—of the heart of the child at the ages of six and nine years—of the heart of the adult in the sound state—of the human heart slightly and greatly hypertrophied—and of the heart of the young and adult ox—the following conclusions may be deduced:—

1st. That the blood-vessels and the muscular structure of the auricles and ventricles of the heart are endowed with numerous ganglia and plexuses of nerves, which have not hitherto been described or represented in the works of anatomists.

2nd. That the nervous structures of the heart, which are distributed over its surface to the apex, and throughout its walls to the lining membrane and columnæ carneæ, enlarge with the natural growth of the heart before birth, during childhood and youth, until the heart has attained its full size in the adult.

3rd. That the ganglia and nerves of the heart enlarge like those of the gravid uterus, when the walls of the ventricles are affected with hypertrophy.

4th. That the ganglia and nerves which supply the left auricle and ventricle in the natural state are more than double the size of the ganglia and nerves distributed to the right side of the heart.

This anatomical demonstration of the ganglia and nerves of the muscular substance of the heart completely overthrows the last remaining argument employed by those physiologists who still defend the doctrine of Haller, that the irritability and contractility of muscular fibre is independent of nervous influence. This demonstration further clearly indicates the source of the actions of the heart as an entire organ, and how its detached parts can continue to contract after its total separation from the body. It likewise furnishes a satisfactory explanation of many phenomena observed in the progress and treatment of organic diseases of the heart.

In prosecuting this investigation into the nervous system of the heart, I found that the great difficulty of dissecting and displaying the cardiac ganglia and nerves did not arise so much from their extreme softness, from their close and intimate connection with the blood-vessels, or from the quantity of adipose matter in which they were imbedded, as from the presence of a dense fibrous membrane or fascia which was interposed between the serous membrane and the muscular coat, of whose existence as a distinct tunic of the heart I had no suspicion when these researches were commenced. In the most recent systematic writers on anatomy, the heart was represented as consisting of muscular and tendinous structures, blood-vessels, nerves, and absorbents, enclosed between two serous membranes.

The serous layer of the pericardium, which is reflected over the surface of the auricles and ventricles of the heart, is an extremely thin, smooth, and transparent membrane, which is torn by the application of the slightest violence, after it has been separated from the fibrous membrane or fascia which is situated between it and the muscular substance of the heart. If an incision be made through both these membranes over the left ventricle, it is not difficult with a pair of fine forceps and a needle to destroy the cellular tissue by which they are united, and to demonstrate the existence of a serous layer and fibrous membrane over the whole surface of both auricles and ventricles. On examining the fibrous membrane when thus exposed, it is found to be possessed of great strength and firmness, glistening, semi-transparent, and resembling in all respects the aponeurotic expansions or fasciæ covering muscular organs in other parts of the body. It is much stronger over the ventricles than the auricles, and it adheres so firmly where it is in immediate contact with the muscular substance of the auricles and ventricles, that its separation often cannot be effected without tearing up some of the muscular fibres to which it is attached. From the inner surface of this fascia, which I have named the cardiac fascia, innumerable strong fibres pass to the blood-vessels, nerves, and muscular fasciculi and adipose matter. These strong slender fibres, connected with or proceeding from the inner surface of the fascia, accompany and surround all the blood-vessels and nerves, and they are interlaced together so as to form a peculiar stroma—if it may be so termed—of considerable thickness, between the fascia and all the various structures

beneath, which it invests and binds together in the strongest possible manner. These fibres form a complete sheath around all the arteries, veins, and nerves, on the surface of the heart, and accompany them as they dip down between the muscular fasciculi to which their branches are distributed throughout the entire walls of the heart, from the surface to the lining membrane.

From the preparations in the Museum of St. George's Hospital, and others in my possession, it is seen that the cardiac fascia exists in the hearts of the larger quadrupeds, in the human heart in the healthy and hypertrophied states, and in the heart of the child at the ages of six and nine years. It can likewise be demonstrated in the hearts of birds; and it is this fascia which chiefly gives to the fœtal heart its remarkable firmness, when all the other muscular parts of the body are, as Mr. Hunter observed, in a soft and almost gelatinous state. "The muscle which has the greatest resistance in an animal body to overcome," he observes, "is the heart, especially in quadrupeds; and this is perhaps the firmest in the body, being even firmer than those which have the above-mentioned resistance to overcome." "From the above account it must appear," adds Mr. Hunter, "that muscles, in proportion as they are firm in texture, will be strong in action; it is at least demonstrable in the muscles of the same animal whose texture is different, and similar muscles in the male and female of the same species, and we may reasonably suppose that it will hold good in different species; and, therefore, when we find the muscles very firm in any one species, we may conclude that this species is stronger than any other species in which the muscles are tender and soft." "The heart of all partakes strongly of the two causes of firmness, and is perhaps the firmest muscle in the body."

The cardiac fascia is obviously one of the principal causes of the firmness and strength of the central organ of the circulation of the blood, as it binds together into one mass, and gives support to the muscular fibres, like the fasciæ investing other muscles. The cardiac fascia is to the heart, I believe, what the external fibrous coat is to an artery, and it must have nearly the same effect in preventing dilatation and rupture of the ventricles during violent exertion. The thin feeble serous covering of the heart can possess little influence and add nothing to the strength of the parietes; and probably but for the fascia now described, the heart would often yield in all directions, especially at the apex. In a physiological point of view it therefore has appeared to me that this fascia of the heart is one of its most important structures.

In a pathological point of view, the cardiac fascia is perhaps not less worthy of notice. Muscular structure it is well known is not liable to attacks either of common or of specific inflammation. It is impossible to avoid suspecting that rheumatic inflammation of the heart has for its principal seat this dense fibrous membrane lying between the serous and muscular coats of the heart, and that attacks of rheumatism of the heart do not commence primarily in the muscular structure. The tunica sclerotica of the eye sometimes becomes inflamed, softens, and yields, and from these changes it is known that sclerotic staphyloma and other diseases are the results. Whether in dilatation of the heart a similar morbid change is not first set up in the fascia, and what influence this fibrous membrane has in modifying all the diseases of the heart, future observations must determine.

The appearances of the cardiac fascia in the human heart, and in the heart of the ox, have been beautifully and most faithfully represented in the engravings which illustrate my paper "On the Ganglia and Nerves of the Heart," very recently published in the Philosophical Transactions, Part 1, 1849; a copy of which paper accompanies this communication.

4, Saville Row, August 3rd, 1849.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 2nd of August, 1849:—Thomas William Shea, England — John Syer Bristowe—Charles Morgan—Edmund Manley, Manchester—Walter Battershall Gill, London—Samuel Curtis Candler, Beccles, Suffolk—Frederick William Napoleon Wilson, Newcastle-upon-Tyne — George Garnham, Martham, Norfolk — James Fuller.

QUERIES IN MEDICAL ETHICS.

By W. Fraser, Esq. M.R.C.S.E.

(*Read before the Medico-Chirurgical Society of Aberdeen, 5th April*, 1849.)

[Continued from p. 187.]

Query 23.—In cases where a surgical operation is indicated, which the medical man in attendance does not feel himself warranted or inclined to undertake, what is the proper course to adopt, and what the proper etiquette to be observed between or among the medical men concerned in the treatment of the case?

Ans.—As the great majority of medical practitioners very properly eschew the performance of the more serious and capital operations in surgery, when the necessity for such an operation is clear and undoubted, or when its expediency has been agreed upon after sufficient consultation, the medical attendant should, with the acquiescence of the patient, select the person in whose judgment, experience, dexterity, and other requisite qualifications, he has most confidence. Supposing the person so selected should coincide with him as to the propriety of an operation, the mode and circumstances of its performance, as well as the preparative and the immediate after-treatment, should be mainly left to him. The surgeon, however, should not assume any charge of the case beyond what his responsibility as the operator *pro tempore* requires of him, and should no more lay himself out for continued employment or general consultation by the patient, than would a dentist or cupper whose services might happen to be required in similar circumstances.

Query 24.—What is the proper frame of mind for the practitioner when engaged in the active duties of his profession?

Ans.—To lay down a specific rule on this head were almost impossible, so much will depend on the natural temperament and character of the individual, and on the varying circumstances and society in which he may be placed. But one thing is plain—that whatever these may be, kindness, firmness, self-possession, circumspection, fidelity, candour, and intelligence, ought, if possible, to form prominent features in his demeanour. The chief qualities necessary in a medical man are most accurately and beautifully symbolized in the ancient myth regarding the demi-god Esculapius, in which he is represented as accompanied by three companions—the dog, the dove, and the serpent. These seemingly incongruous associates may be supposed to indicate unshaken fidelity and devotion to the interests of his patients, and gentleness and harmlessness in his dealings with them, combined with wisdom and caution in the treatment of their maladies. But in his medical attendance generally—and more particularly in cases of difficulty and danger—every practitioner possessed of a well-constituted mind will frequently raise his soul to the great disposer of events—the ever-flowing fountain, as well as the great terminal ocean of life and health—the only source of all true wisdom and consolation. An acquired habit of this kind (and every practice of which the tendency is undoubtedly good, ought to be fostered and encouraged till it acquire the force of a habit) will be attended with various beneficial results, even irrespectively of the avowed object of such an act of devotion. The mind will in a moment, even in the midst of the bustle and excitement of every-day life, be subdued into that calm, observant, and dispassionate state, which is so valuable and requisite amid the distractions of a sick room. The christian virtues, many of which, as faith, hope, charity, and resignation, are highly sanative in their operation, will be called into exercise in the first place in the mind of the practitioner, and then through the force of sympathy be kindled in the breast of the patient, while the opposite and more selfish feelings of ostentation or vanity, avarice, rivalry, irritability, rashness, &c., which often do irreparable mischief in the circumstances referred to, will be kept in subjection. In a mind previously disciplined, a short space of time—even a minute or two, as the practitioner is entering the house of his patient—is quite sufficient to produce the effect desired. And even when in the act of investigating disease at the bedside of the patient, I believe what might still be called a devotional frame of mind to be the best that can be assumed by the practitioner, though it should certainly not be ex-

hibited in an observable manner, and much less in the ostentatious way followed by Doctor Daniel Rutherford, a relative of Sir Walter Scott's, who used, when prescribing for his patients, to offer up at the same time a prayer for the accompanying blessing of heaven.* Looking upon the human body as a temple (with which it is often compared in Scripture†), most wonderfully and fearfully made by the great architect of the universe, or as a machine whose exquisite mechanism and functions he should ever strive to be familiar with, and to keep distinctly before his mind's eye — viewing it, moreover, as united with the God-like faculties of soul and mind, and animated and kept in action by the recondite principle of life—the medical attendant should regard himself as the high priest of this latter mysterious power, whose indications he should carefully and reverentially watch, whose responses to the appeals made to it by the resources of his art, he should sedulously collect and decipher, and in whose service he should at all times consider it the highest honour and privilege to be employed. Such a state of mind, of course, is not to supersede, but rather to direct and regulate, the use of medical knowledge specially so called; and the practitioner should have his mind constantly replenished from the best sources with all manner of professional lore, both theoretical and practical. But he who is impressed and actuated in the manner described runs far less risk of rashly invading and injuring the sanctuary of life, or of improperly interfering with the natural and recuperative powers of the human constitution, than he who is actuated merely by scientific zeal. In the practice of medicine, science ought to be regarded in all cases as a servant or minister to a higher power, rather than as the embodiment of that power itself. I believe there is a much larger amount of evil inflicted on society than we are willing to admit, under the cloak of science, assumed, as it may be, either in simple sincerity, or from politic and unworthy motives. Science alone, particularly when accompanied by the inexperience of youth, and unbridled by the higher principles of religion and morality, is as powerful for evil as for good, and tends, moreover, to make its professors presumptuous, pedantic, and arrogant.

The medical man should not be carried away by every wind of doctrine that may pass across the surface of society or of the profession. In his mind there should be a silent ever-flowing under current of common sense, the combined result of good feeling, accurate diagnostic observation, accumulating experience, and reflection. This, though perhaps little calculated to elicit eclat, or even to excite general appreciation, should nevertheless be sufficient to bear along with it those more superficial currents or eddies of speculation and opinion, in which, to a greater or less extent, he will necessarily participate, which are produced by the popular prejudices that happen to prevail either generally or locally, as well as by those periodical tides of theory, indicated by the various schools,—*quasi* floodmarks,—they give rise to, which succeed each other in the profession itself, with almost the certainty and regularity of a fixed law.

Query 25.—What allowance is to be made for mistakes committed in the course of practice; and how should these be regarded by the practitioner, both when occurring in his own and in his brethren's practice?

Ans.—As it is undeniable that in so difficult and uncertain an art as that of medicine, mistakes and errors, both of omission and commission, must occur in the practice even of the most intelligent and careful men, it is the duty of the medical man, at all times, to review his own conduct in the most dispassionate and self-searching manner. If in the secret and searching court of his own conscience, he should find himself compelled to return a verdict of such culpable ignorance or imprudence, or neglect, as may have led to injurious or even fatal effects, he should by no means try by sophistry to turn aside or efface from his mind the painful feelings which naturally follow as a punishment. These, in fact, both by the impression they make at the time, and by their seasonable recurrence as beacons (umbræ de cymbâ Charontis) in his after practice, will form a most valuable part of his experience, and impart a tone of decision and earnestness to his management of cases, which can

* Lockhart's Life of Scott, p. 30.
† Ps. 139, 14.

never animate either the mere scientific enthusiast in medicine on the one hand, or the mercenary empiric on the other. In proportion as he is sensible of his own shortcomings and mistakes (though that will generally be in the inverse ratio of the number of them), will be the practitioner's indulgence towards those of others. "If," says Dr. Lee, an American professor, "there be a sight calculated to excite pity mingled with disgust, it is to see medical men judging of each other with harshness and severity,—thinking that by depressing others they do so much to elevate themselves."* Such conduct, though it may answer its dishonourable purpose for a time, never fails in the end to recoil on the head of the guilty party. As in every other instance where an individual seeks to advance his own interest by inflicting treasonable, ungrateful, and all the more aggravated, if secret, wounds on an honourable profession to which he belongs, through the persons of his brother members, the fate of a traitor is, to a greater or less extent, sure to overtake him: that is, degradation from his status in the profession, the loss of his right hand of usefulness and power, and confiscation of whatever portion he may have acquired of the general field of practice. In this, as in many of the other cases supposed in these queries, the true answer, that which embodies the practical wisdom of the subject, may be given in the words of the great Christian maxim commonly called the golden rule. The same universal rule is thus expressed in an inverted form by Shakspeare :—

> "This above all—To thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man."

Query 26.—What are the principles that should guide the medical man in his attendance on cases of a mortal character, and in his intercourse with the family and friends of the patient on these occasions?

Ans.—When called to a case which you decidedly perceive to be of a quickly fatal tendency, your duty is at once to apprise the friends, or at least such of them as prudence may point out, of your opinion, and likewise the patient himself, more especially if he appeal to you, unless peculiar circumstances at the time forbid it. After having discharged this most disagreeable duty in the most judicious manner that you can, and given the patient or his relatives an opportunity of calling in further advice, if they should think proper, of procuring the aid of a clergyman, and of making whatever other arrangements may be necessary in the circumstances, you should, with the utmost promptitude, and with as hope-inspiring and sympathising a manner as possible, set about taking advantage of whatever possibility of recovery nature may hold forth. The dictum of Samuel Johnson on this point requires some qualification. He says—"I deny the lawfulness of telling a lie to a sick man for fear of alarming him. You have no business with consequences: you are to tell the truth. Besides, you are not sure what effect your telling him that he is in danger may have. It may bring his distemper to a crisis, and that may cure him. Of all lying I have the greatest abhorrence of this, because I believe it has been frequently practised on myself."* A little medical experience would have induced the stern morallst to have modified his aphorism at least to the extent of allowing the medical man a discretionary power of withholding the truth, or part of it, when the character of his patient or other circumstances warranted him. Medical men are often very unfairly blamed, in cases of a hopeless character, for not at once telling their patients that they cannot recover. In cases of such an acute or unmistakeably fatal character as must in all probability terminate the patient's life in a few days or even hours, and where the shock the information would produce on the patient's feelings would not be likely to turn the balance of chance against him, it is decidedly proper that the friends or the clergyman should let him know to prepare for the worst. But in chronic cases much may be said in favour of a different course. Were the medical attendant, who is looked upon by the patient as the angel of life and health, to set the seal of *his* testimony to the poor invalid's death-warrant, his days would, in many instances, be shortened by weeks or even

* Lancet for July 10, 1847.

* Boswell's Life of Johnson, p. 576.

months. In many cases the shock would be so great that he would refuse, or rather be unable, to take food, and would give himself up to the horror of despair; so that, instead of sinking calmly into death, as nature provides, he would have to endure a fearful struggle, equally harrowing to himself and to the feelings of his friends, with the last enemy, whose approach had been so injudiciously pointed out to him. The medical man must frequently have his feelings severely tried by witnessing the distress brought upon those who are deprived or threatened to be deprived of individuals with whom their dearest affections are bound up, or upon whom their subsistence or prospects in life depend; and there is a danger, on these occasions, of his giving way to his feelings of sympathy to such an extent as to unnerve him for the important and responsible duties involved in his having the charge of the case. The following extracts from Pettigrew's "Life of Dr. Lettsom," will, I think, exhibit the true philosophy that should guide the practitioner on such occasions. The amiable Dr. Cumming, in writing to his friend Lettsom, says—"Have you not sometimes felt the humid clay-cold grasp of a respected friend's hand? Have you not seen the lack-lustre eye, the wan, perhaps the distorted features, and the convulsive pangs, of an expiring husband or father,—his bed encircled by an affectionate wife and a group of weeping children, whose *comfort* in this world—nay, perhaps, whose *subsistence*—depended upon the life of their parent? The feelings that are on such occasions excited, rend the very heart-strings, and make us deplore the *weakness*—the *impuissance*—of our art. I have been on the point of abjuring the practice of physic, have wished to inhabit a den in the desert, or have lamented that I had not been bred to the trade of a cobbler." Dr. Lettsom, who to an equally benevolent heart joined the most masculine good sense and practical wisdom, takes quite another view of the subject, and shows how the honey of comfort may be extracted from the bitter cup of affliction, and the unavailing physician of the body may become the angel of hope and consolation to the mind of the mourners. "I did not expect," he says, in reply, "I should ever have occasion to differ in sentiment from Dr. Cumming; but with respect to all those dreadful pictures he has so painfully exhibited of the *impuissance* of our art, I feel—I mean I have experienced—very different impressions. A physician is always supposed to have formed a judicious prognostic,—to have foreseen the 'convulsive pangs of an expiring husband and father,' and all the subsequent catalogue of distresses; but here, my friend, it is that when in the physician the friend and the divine are combined, his affection, his good sense, and his sympathy, pour into the afflicted the oil of comfort. He soothes the pangs of woe; he mitigates the distresses: he finds out something in the wise dispensations of Providence that he carries home to the bosom of affliction. Here it is that he is truly a guardian angel: his assiduity makes him appear as a sufferer with the family: they view him as part of the family: sympathy unites him to them; he acquires new affections; he mourns with them, and his philosophy points out new sources of consolation: he is beloved; he is become the father of the family; he is everything that Heaven in kindness deputes to soften, to dissipate misery."* "I think," he says, on another occasion, "that a humane physician, who evinces by his conduct a tender interest in the recovery of his patient, never loses reputation by an event which no human means could prevent: on the contrary, oftentimes nearer attachments are acquired; for the sympathy of the physician makes him appear almost as one of the family, and mutual anxiety begets mutual endearment. This I have felt and seen daily; and sometimes the pleasures of rational melancholy, if I may so term it, are the most permanent and the most consolatory to a feeling heart."†

Query 27.—What amount of confidence is it prudent or proper in the medical man to bestow on his patients with respect to the nature and treatment of their complaints?

Ans.—This will depend upon a variety of circumstances,—such as the patient's own character of mind, his desire for, and his ability to appreciate information on the subject of his dis-

* Vol. i. p. 27.
† Vol. ii. p. 56.

ease, as well as upon the psychical effect that such information is, in the circumstances, likely to produce. But in general, and where the practitioner is what he ought to be, the best guarantee for the successful, and, both as regards practitioner and patient, satisfactory treatment of a case, is implicit trust in his integrity and skill on the part of the patient, though such confidence, of course, is not to be expected in every instance.*

1. A general opinion as to the probable progress and termination of a case is usually expected from the practitioner in attendance; and, when he has had sufficient opportunity of forming one, and the nature of the diagnosis is such that anything like a distinct and certain prognosis of the disease can be formed, the patient or his friends are entitled to be made acquainted with it by the medical attendant. Knowing, however, that this part of his conduct of a case is generally and justly looked upon as the chief test of his ability to treat it, he should use the utmost caution and discrimination in forming his prognosis, and, if necessary, communicate it in as guarded a manner as he may think expedient.

2. As a general rule it is advisable to let the patients remain in ignorance of the composition of the medicines they are taking. Their prejudices and, by consequence, their equanimity, will thus have far less chance of being ruffled, and the practitioner's hands will not run the risk of being tied up, as respects his future prescriptions, by his patient telling him that such a thing does not agree with him, and begging him not to give it him again. Moreover, upon the well-known principle (here less objectionably applied than in theology), of ignorance being the mother of devotion or faith, the medicine will, in all probability, be held in higher estimation, and consequently be more efficient for its intended purpose. The young practitioner labours under a disadvantage in reference to this subject, compared to the old, as many patients consider that they have a right to know the composition of what they are receiving at *his* hands. The very request, however, argues a want of confidence, which will only be encouraged by compliance; so that in general (being guided by his own judgment as to the cases that should be made exceptions to the rule) he should be firm in his refusal to tell what he is giving: saying, for example, if urged on the subject, "It is something that will do you good; take it, and if you are anxious afterwards I can tell you what it is."

3. In certain complaints, more particularly those of a nervous and hypochondriacal character, caution should be observed with respect to what exposition is given to the patient of his disease and its treatment. Under the subject of Epilepsy, in his Dictionary of Practical Medicine, Dr. Copland makes the following excellent remarks on the subject, the force and propriety of which must strike every practitioner of the most ordinary experience. After having analysed the case, and carefully disentangled the essential from the adventitious and accidental features of it, and so referred it to the class to which it belongs, he says—"The physician should calmly and decidedly direct the means of cure with reference to the disposition, the feelings, the weaknesses, and the irresolution of his patient, and in a manner calculated to gain his confidence and inspire hope. In this, as well as in all nervous diseases, the communications of the physician should be brief, clear, and forcible, without descending to any explanation whatever, either as to the cause or intimate nature of the disease, and the operation of the remedies he recommends, or as to his reasons for adopting them in preference to others; for these are matters respecting which no one

* I do not know if it comport with the experience of others, but I have generally observed that, *cæteris paribus*, Roman Catholics and Episcopalians prove more manageable and confiding *as patients*, and consequently more curable, than Presbyterians and the multifarious body of nonconformists. It would, however, be no fair argument, supposing the correctness of this observation to be admitted, to infer that the value of different systems of religion as regards the salvation of the soul, is to be measured by the influence they appear to have upon that of the body; although there can be no doubt that the circumstance in question might be accounted for by the different habitudes of mind imposed upon patients by the peculiar genius of the religion to which they belong. Scarcely more essential, in fact, to the soul's salvation, in the Christian dispensation, is religious faith, than is the other variety of this great virtue now referred to, towards recovery from many species of disease. But it is equally true of medicine as of religion, that the more genial and faith-inspiring a nature it is of, so much the more powerful will it be for safety or destruction, according to the true value or worthlessness for the end proposed, of the object towards which the faith is directed.

but a well-educated medical man can think aright, or should even attempt to think. All endeavours to explain abstract matters connected with disease, and the means of removing it, to unprofessional persons, however well informed they may be, is to place ourselves at the mercy of the pragmatical objector, or self-sufficient volunteer in the professed cause of humanity. That ignorant empirics are sometimes apparently more successful in the cure of nervous diseases than scientific practitioners, chiefly arises from the circumstance of the former being incapable of stating their views, or assigning reasons for their procedures; whilst the latter, as justly remarked by Dr. Cheyne, are generally very much too ready, as respects both their own reputation and the confidence of their patients, to explain every thing. The empiric is fully convinced of the justice of the apothegm—"*Omne ignotum pro magnifico*"—and acts conformably with it; the man of science is candid, and ready to impart to others the views he entertains. The silence of the one, although generally the cloak of ignorance, imposes more on the public than the open deductions of the other, however confirmed by science and enlightened experience."*

A SUMMARY OF HOMŒOPATHY.

"It prescribes," says Dr. Manley, "for sensations, and not for symptoms, and the remedies are assorted according to the sensations which they produce; so that the *symptoms of the medicine*, and *not the symptoms of the disease*, guide the practitioners in their treatment. Of all the follies which have ever taken possession of a deluded public—not even excepting that of prescribing for patients without inquiry into the nature of their diseases—this pseudo-philosophy, called homœopathy, is entitled to the palm. It sets at naught all the laws of nature; it claims that medicinal agents are remedial in an inverse proportion to the quantities exhibited—that is to say, that an ounce, a drachm, or a grain being remedial, the ten-thousandth, the millionth, the billionth, or decillionth part is much more effective; so that the premises on which the system is founded being granted, all medicine consists in negation; for the doses prescribed are infinitely less than are exhibited day by day in our food and drink for the sustenance of the human body in a state of health."—*Dr. Manley, in Amer. Journal,*

* Vol. i. p. 800.

ON SOME OF THE

MORE PRACTICAL POINTS

CONNECTED WITH THE

TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
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[Continued from p. 151.]

On the Treatment of the more severe forms of Curvature of the Bones of the Lower Extremities. Of Genu Introrsum et Extrorsum. Of Club Feet.

I concluded my last paper with remarks on the *general* treatment of rickets. Much may also be done *locally*, by giving the bones and joints artificial support, by means of splints and other apparatus.

The curvatures depending upon rickets are more difficult to treat mechanically, than those arising from simple weakness, owing to the deformities being so much more severe, as well as taking such a variety of shapes. In a great number of cases the knock-knee and outward curvature of the tibia are combined; two kinds of splints, then, have to be employed—namely, the long splints outside to act upon the knees, and the short ones inside to act upon the tibia. The short ones are to be applied first, in the manner described in a previous paper; and then the long ones on the outside, making the knee strap pass round the two splints, and the ankle one the same, the middle strap round the leg acting upon the short splint only: pressure upon the joints and bones continued in this manner for some time, will both straighten the knees and the bones of the leg. The inner splint may be necessary in slight cases, where there is only the indentation just above the inner ankle, to prevent the ankle strap that fixes the lower end of the long splint from slipping into the hollow so formed, and tending to increase the curvature. It need not be very wide when used for this purpose.

Little can be done for the *anterior* curvature of the tibia, for it is not only difficult to apply the pressure, but when applied cannot be borne to an extent sufficient to act upon the deformity,

owing to the skin becoming so soon irritated on the sharp spine of the bone: as a general rule, however, this anterior curve diminishes as the bone elongates by growth, the projection occupying a higher position nearer to the centre of the tibia. I have already referred to the tense condition of the tendo-achillis in some of these cases of severe anterior curvature, and in some, I have no doubt, the shortening produced in the muscle is such as not only to continue the increase of the deformity, but to be a cause in the way of preventing the cure. Some years ago I divided the tendo-achillis in both legs in a young girl, in whom the tendons were as tense as a string to a bow. The legs are now much straighter, and the muscles have lost that extreme degree of contraction they possessed before the operation, without producing any debility in their power; the girl being able to run about as actively as ever. I see no reason why this shortened condition of the tendo-achillis in these *very severe* cases of anterior curvature of the tibia, should not be considered an obstacle in the way of the cure, quite as much as in other contractions where the joints are deformed: of course I am only referring to an age where the bones are so soft as to admit of being easily bent by the force of the two hands, which can be done generally in young children who are affected with the severe form of rickets of which I am now speaking; and when the bones are so much curved that it is next to impossible to apply sufficient pressure, with the strong muscles of the calf of the leg acting in opposition, and little inclined to yield to an extent sufficient to allow of the elongation of the bone taking place. In children past the age of puberty, the bones become hardened, and little inclined to yield under any circumstances.

In these very severe cases of anterior curvature of the bones of the leg in young children, the child must be kept off its feet, for the bones will continue in their bent condition, and the curvature very likely be increased by the weight of the body simply acting mechanically upon them, independently of the muscles of the calf, which at the same time will tend to increase it by the traction of the tendo-achillis on the os calcis.

In severe rachitic genu valgum, it may be necessary to divide the tendon of the biceps flexor cruris, where it is ascertained that it presents a decided obstacle to the straighting of the joint. I have already stated, that I believe in some of these cases the strong external lateral ligament may be divided with advantage where it is felt to be tense and shortened, and it may be done with impunity, no evil consequences arising from it. The ligaments may prevent the deformity being relieved, as well as the contracted muscles, when unnaturally shortened.

The mechanical treatment required for the severer forms of rachitic genu valga is the same as that recommended for the severe kind of common knock-knee—namely, the splint, with a hinge to allow it being fitted closely to the shape of the joint, the extension outwards being made by the male and female screw; the important point to attend to being to see that the knee lies flat in the splint, and that it is firmly fixed in position with a broad strap and thick pad. After the bones have been brought into the straight position, they require to be kept so, by means of artificial support, for some months, when the patient begins to walk. This support is gained by employing irons attached to the boot below, and to a pelvic hoop above, which connects the two together. Each iron has three joints, one at the hip and ankle, which are free, and one at the knee which locks with a "catch," and admits of being used at pleasure, so allowing of the joint being bent, when it may be thought proper to do so; which, however, should not be done till some time after the patient has commenced walking: the object being to let all the ligaments and muscles around the joint become accustomed to their new position, into which they have been brought by the deformity being removed. The irons should be made as light as may be consistent with strength, more particularly in young children, where the muscular system generally is weak. When the patient discontinues the use of the irons, he should do so by degrees, by leaving them off for a short time every day, and so increasing the interval: the guide being, the existence or not of any inclination in the joint to fall inwards; should this exist, they must be worn constantly for some time longer.

Severe outward curvature of the tibia, when depending upon rickets, is generally accompanied with outward curvature of the femur also, throwing the knees widely apart. It is a very difficult deformity to treat even in young children, owing to the inability to gain sufficient purchase on the thigh to act with any mechanical power on the curvature of the femur itself; for to straighten a bone by means of a splint and straps, a fulcrum must be gained at both ends, while the pressure is made to tell upon the centre and most curved part; and this cannot be done on the thigh, from the peculiar attachment of the head of the bone to the pelvis. The common splint, however, is the best to be employed, and should be made long enough to extend up the thigh as high as practicable: the pad of the knee must be very thick to throw the splint off from the thigh, so that the straps may have a purchase on the bone, and act upon it, if it be inclined to yield; whereas if the pads were thick on the thigh, all the straps would do would be to press the muscles against the femur, instead of tending to draw the bone towards the splint. But, as before stated, it is very difficult to act upon the thigh bone at all in these cases. Much can be done in removing the curve in the bones of the leg, which will also assist in removing that of the bone of the thigh, by bringing the weight of the body to bear more perpendicularly upon the whole limb.

Another difficulty in these cases of severe curvature of the thigh bones, when met with after the bones have become hardened, is, that any straightening that may be produced in the limb is done at the expense of the knee joint, provided the bone itself will not yield; for the articular surfaces of the bones—namely, the tibia and fibula—remain in contact notwithstanding the great degree of curvature that may exist in them. It is different in the cases of knock-knees, where the inner condyle and the inner portion of the head of the tibia may become separated to a great extent, the separation being distinctly felt by placing the finger between the two. This must be borne in mind; and it is better to leave the curvature in its original condition, rather than strain the joint to an extent to produce a weakness which the patient may never altogether get rid of. A good rule to follow in these cases of curved bones is to ascertain if the curvature is increasing; for, if so, it necessarily implies that the bone is still soft enough to yield, and if in one direction, there is no reason why it should not yield in the other, though the weight of the body may cause it to do so more than the pressure produced by the straps and splints: still, by perseverance in keeping the patient off his feet as much as possible, much may be gained.

Genu introrsum et extrorsum.

Inward inclination of one knee, and outward of the other, is often met with. It may always be said to depend on great constitutional weakness, from scrofula and rickets, and generally is found to occur in short, thick-set people. I believe the genu introrsum generally shows itself first, and throws the weight of the body obliquely, so as to bring the centre of gravity in a direction outside the opposite knee, and to throw the whole strain to the outside of this joint; but the ligaments are generally strong enough to resist it; the weight of the body then tells upon the bones of the leg, and causes the tibia and fibula to be curved outwards, often to a very severe extent. On this account it is almost always found in this kind of deformity, there is more or less curvature of the bones of the leg in which the genu extrorsum exists, while those of the genu introrsum remain straight, the principal strain being upon the ligaments of the knee and ankle-joints. The deformity sometimes takes such a severe form, that the wonder appears how the patient can walk at all, with the knee-joints in the oblique position they are placed, from the ligaments of the one leg and the bones of the other having yielded to so great an extent, producing so complete a zig-zag form, that the knees are with difficulty brought one before the other.

In the treatment of this kind of deformity the principal attention must be directed to the genu introrsum or knock-knee, for much can be done to this, though little can be effected with the opposite limb if the patient has arrived at the age when the bones have become hardened. In young children both the curvature of the tibia as well as knock-knee may be cured, but when the bones become "set" there is very

little chance of overcoming the curvature, which in many of these cases exists in the femur also. It may always be as well, however, to ascertain if the curvature in the tibia have increased lately, and to try, by forcible pressure with the hands, if the bone will bend at all; and if it will, there may be some chance of making it straight, and of assisting in remedying the evil, when the weight of the body is removed from its unequal bearing, by the knock-knee being cured: nature may then do much in rectifying the curve, when the cause of its existence is partly if not completely removed.

In children, the genu introrsum et extrorsum is to be treated by employing the two common wooden splints described for the treatment of the double knock-knee; for at this age there is little or no curvature of the tibia in the leg affected with the genu extrorsum; should there be any, a short splint on the inside must be used in addition to the long splint, and strapped on in a manner to act upon the curvature of the tibia. In the severer cases, at a more advanced age, it may be necessary to divide the tendon of the biceps flexor cruris: the same rules must serve to guide the surgeon as to the operation being required, as well as in the manner of performing it, as those that were laid down when speaking of the genu valgum affecting both knees.

When the genu introrsum has been straightened, there will of course be a wide separation between the two knees, owing to the genu extrorsum, the one affected with the curvature of the bones as well, remaining in its original position, while the other has been drawn into the straight line. There is also a necessary difference in the length of the two limbs, often to the extent of two or three inches, which is to be explained also from the same cause, viz. that the genu introrsum has become straightened, the bones being of their natural length, while the bones of the opposite leg remain curved, the degree of shortening depending upon the extent of the curvature. This difference is to be remedied by having the boot of the shortened limb raised by a cork sole, the thickness of the cork being regulated by the degree of shortening of the leg. Irons will have to be worn for some time on both legs, carried down from the hips and attached to the boots: the one for the genu introrsum being on the outside, that for the genu extrorsum being on the inside, from the knee downwards, with the intention of acting upon the curvature of the tibia, if it be still in a condition to yield.

When it is deemed advisable to leave off the irons, a firm knee-cap made of thick leather, with whalebone or a thin piece of steel inserted along the outer portion of it, to correspond with the outside of the knee, should be employed to support the joint. In some cases, where there has been a tendency for the joint to yield a little after the discontinuance of the irons, I have employed a firm knee-cap of the above nature, with a hinge on the outside, with male and female screws connected, so as to gradually straighten the joint without the necessity of confining the whole limb in either the wooden splint again or in the irons. The knee-cap should be long enough to extend half way up the thigh and half way down the leg, being bandaged first of all from the foot upwards.

The great advantage gained in these cases of genu introrsum et extrorsum after the treatment is, even if the curvature of the bones of the leg cannot be removed, the bearing of the whole weight of the body is so much more perpendicular, owing to the other leg being straight, that the patient walks with much more strength and comfort, as well as with less apparent halt in the gait, having lost the side or crab-like walk which exists in the very severe kinds of this deformity. A knee-cap will always be required to be worn on the leg affected with the genu introrsum, to guard against a return of the deformity, owing to the opposite knee remaining in a position tending to throw the body to one side, which will naturally bring the leg that has been straightened in a direction towards it, and so reproduce the knock-knee if means be not taken to guard against it.

In the preceding remarks in the present paper, as well as the two previous ones, I have wished to give some of the principal practical points connected with the treatment of the different kinds of curvatures of the bones of the lower extremity, as well as the weakness of the knee-joints, which are such common deformities in children

of a weak constitution in the better as well as poorer classes of society. They may all, I believe, be benefited by the judicious employment of mechanical means, though some require their use more than others: in all, the general health should be attended to.

Of club-feet.

The term *club-foot* is applied to certain deformities produced by the displacement of the bones of the tarsus and toes, causing their natural relative position to each other, as well as to the bones of the leg, to become so much altered that the weight of the body is no longer supported on the flat part and sole of the foot, and in most cases not upon the sole at all: the part of the foot receiving the pressure, and coming in contact with the ground, depends upon the peculiar kind and shape of the deformity.

There are four principal kinds of club-foot, which have all different names expressive of the particular shape the deformity takes. There is the one generic term *Talipes*, which may be usefully applied to all, as first proposed by Dr. Little. I shall briefly explain the different varieties.

1. *The talipes Varus.*—In this variety the foot is turned upwards and inwards; the heel is drawn up, the astragalus displaced downwards and turned outwards, loosing a large portion of its natural articulation with the trochlea of the tibia, and, in severe cases, being the point of the foot on which the principal pressure tells in the act of walking and standing; the other bones of the tarsus are forcibly wedged against one another, in a direction backwards, while the bones of the metatarsus and phalanges are also compressed, diminishing the width of the foot, and causing the weight of the body to be borne in many cases on the outer edge of the foot, as well as on the astragalus. The sole of the foot looks backwards, and sometimes upwards. The patient is often described as walking upon the outer ankle: this, however, is not correct, for the fibula is never in contact with the ground.

2. *The talipes Valgus.*—The foot, in this variety, is just reversed in shape; instead of being contracted in every direction, the bones are spread out and separated as much as the resistance of the ligaments will admit of. The foot is widened and lengthened, and flattened, the arch being completely destroyed,—giving the name of *flat foot* to this kind of deformity. The relative position of the articular surfaces is less altered, the bones being still opposite each other, though separated. The astragalus presses on the trochlea of the tibia, though a little tilted outwards against the fibula, causing the inner malleolus to be separated from it more or less, according to the degree of flattening of the foot and the relaxation of the internal ligaments of the ankle-joint. In the severest forms many of the tendons are in a state of rigid contraction, owing to the muscles having become accommodated to their new position. The contracted muscles are the long and short peronei, the long extensor of the toes and third peroneus, all of which, when in inordinate action, will tend to bring the foot into the condition of valgus. The tendo-achillis is also contracted in the severest forms, so preventing the natural flexion of the ankle-joint, and locking it at a right angle.

3. *The talipes equinus, pes equinus,* or horse-foot, is the simplest form, though it may also differ in degrees of severity: it consists in complete elevation of the heel,—producing, in fact, extreme extension of the ankle-joint, causing the patient to walk upon the ends of the metatarsal bones. In pure *talipes equinus* there is no lateral displacement to either side. The astragalus may project to an unnatural extent on the instep, owing to the extreme extension of the ankle-joint, as well as to the increase of the arch, produced both by the pressure telling against the end of the foot, as well as by the shortened condition of the plantar fascia: the anterior part of the foot appears to be wider than natural, owing to the weight of the body telling upon the ends of the metatarsal bones, and separating them from one another: generally, however, the separation is more apparent than real, owing both to the shape of the rest of the foot, as well as to shortening of it, produced by the increased convexity of the arch. The phalanges of the toes are put into a state of extreme extension by the action of the common long extensor and the long extensor of the great toe, and are generally drawn upwards, or to the upper surface of the

heads of the metatarsal bones; the great toe is more retracted than the other toes, from possessing an additional powerful muscle.

4. The *talipes calcaneus* is the reverse deformity to the talipes equinus, as the valgus is to the varus. The heel drops instead of being elevated; and in extreme cases the anterior part of the foot is tilted upwards. Pure talipes calcaneus is not so common as the compound variety when combined with valgus, constituting what is called the calcaneo valgus, where the foot is turned outwards at the same time with the dropping of the heel. It is more frequently a non-congenital complaint, and, when so, always depends upon either partial or complete paralysis of the muscles of the calf of the leg,—so removing all power from the tendo-achillis in keeping the os calcis in its natural position. The plantar fascia is often so much shortened that the os calcis is held in its dependent position, the end of the bone pointing completely downwards, causing the posterior part of the heel to be flattened, and to be in a line continuous with the leg. It is very common to find paralysis of the extensors of the knee in these cases, and often of all the muscles of the lower extremity, with the exception of those of the hip.

Talipes calcaneus is sometimes congenital: it is then dependent upon inordinate action of the flexors of the ankle-joint, rather than upon paralysis of the gastrocnemius and soleus. In fact, the deformity in infants is merely one of extensive flexion of the ankle,—the toes, or at any rate the tarsus or instep, being brought nearly, if not quite, into contact with the anterior part of the leg. The os calcis points downwards, but keeps its natural level with the sole of the foot. Position in utero may be one cause of the deformity, where the feet are pressed more than usually close in the flexed condition against the leg. I do not consider this explanation satisfactory; for we should expect the deformity to occur more frequently did it depend solely on the above cause. Sometimes there is an inordinate contraction and rigidity of the ham-string muscles, which cannot be owing to position, for the legs, with very rare exceptions, are always flexed upon the thighs "in utero," and yet this condition of the muscles is very seldom met with. I believe it is more likely to depend upon some nervous cause, though one that is inexplicable. If the peronei produce eversion of the foot at the same time, the deformity becomes one of *calcaneo-valgus*. I think, however, that I have observed the congenital cases more frequently to be distinct; that is to say, either talipes valgus or talipes calcaneus only, rather than the two combined; whereas those which occur after birth are more frequently *calcaneo-valgus* than pure *talipes calcaneus*.

The most common compound variety of club foot is the equino varus: it is worthy of being classed as a distinct species, both from its frequency as well as from its permanency, not extending beyond the position of *half-varus*. The name implies the nature of the deformity. The heel is raised, and the foot turned half inwards. The patient walks upon the matatarsal bone of the little toe principally, and more upon the base of it, opposite to which the pad is formed, upon which the patient treads, and not upon the astragalus and cuboid bones, as in complete varus. In many cases of equino varus, where the deformity is slight, the edge of the foot is not so much pressed upon, and the patient is still able to put the toes to the ground, but after a while they become retracted at the upper surface of the metatarsal bones, similar to the severe cases of simple talipes equinus. I have never seen a congenital case of talipes equino-varus. Slight cases of congenital varus might at first sight be thought to resemble it, but there is always this difference: in infantile varus, thought slight, the foot seldom projects before the leg; that is to say, the tarsus and anterior part of the foot occupy a lateral position, instead of one from before backwards. It is important to make the distinction between the simple varus and the equino varus; for, though the inversion of the foot may be only slight, still the action of other muscles is brought into play—namely, of the tibialis posticus and anticus—both of which tendons should be divided to facilitate the cure, and render it more permanent; whereas in the pure talipes equinus the tendo-achillis alone need be divided, with sometimes the band of the plantar fascia.

Complete varus may be converted into

the equino varus, where the deformity is only half cured; that is to say, the anterior half of the foot is turned inwards, though the tarsal bones, and more particularly the astragalus, may have been nearly, if not quite, replaced. The heel is also a little elevated. The great improvement gained in these cases of half cure is, that the patient walks on the sole of the foot (though not completely flat), instead of the outer edge.

The next compound variety of club-foot is the *equino valgus*: as its name implies, it consists of valgus or flat foot, with elevation of the heel. The heel is never elevated to so great an extent in this deformity as in the equino varus, owing to the tendo-achillis not becoming so much shortened; it is generally more so, however, when there is paralysis of the antagonist muscles. In most cases of equino valgus the contraction of the tendo-achillis is not discerned till the foot is brought into position with the hand, by bringing the astragalus well into the trochlea of the tibia, which at the same time depresses the os calcis, and discovers the shortening of the tendon, which will be ascertained when the attempts are made to flex the ankle-joint. There will be found to be a "lock" either at the right angle or before the foot can be brought to this point. If the foot be capable of moving beyond the right angle, it is no longer *equino valgus*, but simple valgus. It may seem trifling to make this nice distinction, but it is really of importance to do so; as in the former case it may be necessary to divide the tendo-achillis, while in the latter such division is not required. In equino valgus the foot is generally turned more outwards than natural, the toes being pointed in this direction by the contraction of the tendo-achillis in combination with the action of the peronei muscles and the long extensor, whereas in simple valgus the foot remains nearly in the straight position, although the arch may be completely destroyed, and resting principally upon its inner edge. In paralytic cases of equino valgus the arch of the foot is never so much destroyed as in the non-paralytic cases, nor as in simple valgus. The reason of this is, that the weight of the body never tells on the foot in the same manner, owing to the paralysed condition of the limb not enabling the patient to bring the leg and foot in a line with the body with sufficient steadiness to support it in a position that the weight can tell upon it; the consequence of which is, that the arch of the foot seldom does become much pressed upon, and at any rate not with sufficient force to displace the bones to any great extent. These cases are always very unsatisfactory, owing to the existence of the paralysis, which often affects the extensors of the knee as well: much can be done, however, towards placing the foot in a better position, and enabling the patient to get about with a comparatively useful limb, by the means of artificial support.

Some of the varieties of club-foot may exist in both feet simultaneously, or in one only, or the two feet may be affected with different forms: thus one foot may have varus, and the other valgus, &c. The most common kind is the congenital varus, which more frequently affects both feet at the same time, and generally with equal degrees of severity: sometimes, however, one is more rigid than the other, and of course yields to treatment more easily; this is the exception, however.

All the forms of club-feet may exist in different degrees of severity, from the slightest deformity up to the most marked kind of distortion, whether the cases be congenital or not, and whether depending upon spasm or paralysis. The amount of relief to be obtained by any treatment that may be adopted will of course vary also, as well as the length of time that it may be necessary to continue it with the greatest chance of benefiting the patient. The causes and treatment of the different kinds of club-feet remain to be considered, which subject I shall commence in my next paper, with minor points of detail in reference to each variety not introduced in the general remarks I have hitherto made.

[To be continued.]

EMPLOYMENT OF ARSENIC IN ORGANIC DISEASE OF THE HEART BY M. SOLON.

In a case of hypertrophy, with narrowing of the aortic and mitral valves, M. Martin Solon states that he administered liq. arsenicalis with very great benefit: there was a signal abatement of all the symptoms.—*Journ. de Chim. Méd.* March 1849. χ

MEDICAL GAZETTE.

FRIDAY, AUGUST 10, 1849.

Our readers cannot have failed to notice the perseverance with which medical and non-medical correspondents have endeavoured to furnish the public through the "ordinary channels of information," with infallible specifics for the treatment of cholera. The Board of Health, or Works, began it: and since the appearance of their famous manifesto recommending the popular administration of opium in specified doses without reference to age, constitution, condition of body, &c., there has been no end to the newspaper suggestions of all sorts of practitioners, from the University M.D. to the humble nostrum-monger, desirous of turning an honest penny by the sale of his stock. The patent medicine-venders have not failed to act upon the recommendation of the Board of Works, as the following notice printed *verbatim* will show:—

"*Cholera lozenges, for its prevention and cure.*—The Board of Health having recommended the use of certain remedies in premonitory symptoms of cholera, English and Co. have succeeded in compressing those remedies ordered by the Board into the form of lozenges, which are palatable and far more convenient than draughts, as six doses are packed in a box which may be placed in the waistcoat pocket, and always at hand in case of necessity. Medical authorities agree that the treatment in early stages of cholera is the same as that of common diarrhœa. Two of these lozenges contain precisely the ingredients ordered by the Board of Health as a dose for an adult, for persons under 15 years of age one lozenge, and young children half a one, to be repeated every four hours, or oftener if the attack is severe, until the bowels are restored to their natural action. Those parties who are subject to derangement of the bowels should never be without this most valuable medicine; for, if taken on the approach of pain, it effectually prevents the evil consequences that may follow from delay.

"The primary symptom of cholera is a looseness in the bowels, which there is every reason to regard as universally preceding the more dangerous state of the diseases, and if promptly attended to, the patient generally recovers; but, if neglected, spasmodic attacks ensue, and death mostly follows in from four to six hours.

"The lozenges are sold by the proprietors, English and Co., chymists, 31, Poultry, London, in Boxes 1s. 1½d. and 2s. 9d. each; and, by order, of all respectable chymists.

"*Caution.* — The Government Stamp round the box bears the signature of "English and Co.," without which none are genuine."

It is not improbable from the announcement, that these lozenges contain opium, and therefore that the free exhibition of them to children may add to the number of coroners' inquests.

A letter from two gentlemen belonging to the medical profession next introduces to the public the hydropathic practice of packing in the wet sheet as the best means of restoring heat to the surface. In their letter we have a circumstantial account of the mode in which a person is to be packed, quoted from a work on hydropathy; and this of course serves as an excellent opportunity for the author of the said work to write a letter giving fuller directions on the subject, so that every one who reads the newspaper may know how to pack himself or his friends in case of emergency.

It is unfortunate that the gentlemen who have suggested the use of the wet sheet have not been explicit in their details of the results of this mode of treatment. The following bold statement is all that we can extract under this head:—

"The above plan has been tried in thirteen most severe and undoubted cases, characterized by all the well-known symptoms of Asiatic cholera, in all of which the surface was icy cold, more or less blue in the different cases, and in some of which the pulse was imperceptible at the wrist.

"In every instance, after fifteen or twenty minutes, a genial warmth, and in some, profuse perspiration, was produced; the pulse rose, and the cramps nearly or altogether ceased."

How many of the thirteen *recovered* is not stated. This may have been an accidental omission; but, nevertheless, it happens to be precisely the point on which the profession and public require information. The restoration of a genial warmth to the surface is quite compatible with the subsequent death of the patient, and is certainly not synonymous with the *cure* of cholera. In the concluding paragraph of the letter it is rather obscurely hinted that four patients owed their recovery almost exclusively to the wet sheet.

"This remedy is not put forward as a substitute for, but as an accessory to other remedies, although we have now four patients convalescent from the most inveterate attacks, in whose cases the adjunctive treatment was very trivial indeed. We conclude by earnestly and sincerely recommending our professional brethren to try the above plan, by which we hope the present high mortality may be somewhat lessened."

If our readers can make any thing out of these extracts, so as to arrive at a per centage of cures compared with cases, and thus determine the amount of real benefit conferred by the wet-sheet practice, they will be more fortunate than ourselves. We by no means wish to *damp* the ardour of hydropathists, but we must take leave to remind them that the production of a genial warmth or a profuse perspiration does not remove the *materies morbi*, and, so far as our information goes, it exerts no control over the progress of the malady. We have made inquiry of certain practitioners who have been led by this letter to try the wet sheet, and the answer is, that warmth and perspiration were undoubtedly produced by it, but the patients died as rapidly as in other cases in which this treatment had not been adopted.*

Another member of the profession, for whom we have a great respect, proposes that while we warm the outside we should congeal the inside of the body by the "application of a benumbing cold to the interior of the digestive canal." The cold should be that of zero.

"This degree of cold, which is produced by a mixture of pounded ice and common salt, immediately puts a stop to pain, irritation, or inflammation, on the exterior of the body, or wherever the seat of these affections is accessible to it; and as the most important or dangerous morbid circumstance in cholera is the irritation of the stomach and intestines, and the consequent profuse discharge of the animal fluids, the proposed remedy would appear especially adapted to this disease. No other remedial means, not excepting bloodletting, is at once so powerful and prompt in its operation, and none is so safe. No other remedy appears commensurate in power with the violence of Asiatic cholera."

This remedy has been recommended on theoretical grounds. We are not aware that it has been tried to such an extent as to warrant an opinion respecting its efficacy in the treatment of cholera. *A priori*, we should think that the congelation of any part of the alimentary canal by a cold of zero directly applied to it, would be a most hazardous experiment; nor can we lay aside this opinion, until we have some clear and distinct proofs that the coats of the stomach of a living person may be congealed and thawed with impunity.

A writer signing himself M.D. next

* This method of treating cholera reminds us of an anecdote of a French physician, who treated the disease in Paris in 1832, and who was a strong advocate for topical bleeding by the application of leeches to the abdomen. His theory was, that there was abdominal congestion, which the abstraction of blood would relieve. While engaged in insisting upon the efficacy of his plan, at the meeting of a Medical Society, it was objected by one of the members that *all* Dr. ——'s patients had *died* in spite of the copious leeching! The doctor could not deny this; but he courageously defended his mode of treatment on the pathological ground that when the bodies of his patients were submitted to a post-mortem examination there was no congestion of the vessels—"*les intestins étaient parfaitement blanchis.*" We suspect the public will care as little about the restoration of warmth to the surface as about the removal of congestion, if the treatment is to have no certain effect in preventing a fatal result.

recommends congelation of the *outside* of the body by ice and salt applied to the abdomen.

"Where cholera actually exists, pulverized ice mixed with salt in a bladder or macintosh and laid upon the abdomen is most efficient (if persevered with) in allaying irritation, and keeping that whole region below the possibility of inflammation without causing any general debility. It is in fact, when so used, a local depressent of inestimable value, and can be accurately timed by the condition of the patient."

We will leave the advocates of the wet sheet to settle with this gentleman whether the production of a genial warmth on the whole surface, or the cooling of the abdomen to zero, be the more adapted to give the patient relief. We in vain seek in this letter for some precise information on the curative powers of external congelation. The writer tells us, in the usual vague and indefinite terms by which these newspaper contributions are generally characterised, that in America "nothing has been found so speedily to allay the diarrhœa premonitory of cholera, or so readily to soothe the general nervous excitement which often accompanies it, as the local application above described, accompanied, at the pleasure of the patients, by the free use of iced drinks, &c.!"

The next letter, which appears under the signature of AMICUS, takes a strongly scientific view of the plan of treatment. The remedy is boldly suggested—its mode of operation is also described: it strikes rather at prevention than cure, and the only point omitted by the writer is an account of any fact or facts to show that the results are as beneficial as he wishes us to believe. The remedy is common table salt, not injected into the veins or bowels, but swallowed in substance by all persons at every meal, and in heroic doses. We do not wish to spoil the science contained in the letter, and therefore we quote rather freely from it. In addressing the Editor of the Times, Amicus says—

"I now venture to beg the favour of your circulating an antidote, which I believe to be infallible in destroying susceptibility to the Asiatic cholera, which, from its simple character, is free from every objection, and which may be taken without the slightest risk to the general health under all circumstances.

"This antidote is common salt. Common salt is a compound of chlorine and sodium, and contains 60 per cent. of chlorine. Chlorine, it will be admitted, is the most powerful disinfecting agent we are acquainted with. I have frequently, by its agency, in a few hours disinfected a house from the poison of scarlet fever, and it is equally serviceable as a purifier of the atmosphere in all infectious diseases.

"The medical members of the Board of Health believe the causes of cholera to lie in the atmosphere, and that the disease is not propagated by human contagion. In this opinion I concur. But they believe the poison to be inhaled, the blood thereby becoming affected, and that the violent diarrhœa and vomiting which precede the fatal symptoms are but the efforts of nature (the *vis medicatrix naturæ*) to rid the body of the poison. In this grand particular I differ. I believe that in every case the poison of cholera attaches itself to particular animal or vegetable substances, and is swallowed, thereby coming in direct contact with the lining membrane of the stomach, the organ in which the first sensations of uneasiness are almost invariably experienced.

"I think if the cause were inhaled, and entered the blood through the lungs, from our being perpetually exposed to its influence, the seizures would be a hundredfold greater than we now meet with. However, I will not enlarge on this point.

"I advise a saltspoonful or small teaspoonful of salt, to be taken three times a day (from a sixth to a quarter of an ounce altogether); sufficient chlorine is thus taken into the stomach to destroy the poison, should it have gained access; if not, the antidote can do no harm.

"I believe the salt becomes partially decomposed by the action of the gastric juice; but give nature the elements, and she will convert them to a good purpose.

"I advise my friends to eat as much salt as the stomach will bear (without producing thirst or after-inconvenience), three times a day—namely, at breakfast, luncheon, and dinner, or at breakfast, dinner, and supper. Children require a proportionately less quantity than adults. It may be eaten with fish, animal food, poultry, game, bread, toast, or bread and butter.

In two days, after eating salt, as recommended, persons will not be susceptible to the influence of cholera. Its daily use, however, and in the same quantity and manner, must be persisted in, so long as cholera remains in the country or locality."

Common salt, it will be perceived, is thus considered to prevent an attack of cholera by giving off its chlorine in the stomach, and the gas there disinfects the food from the poison of cholera, which, in the writer's opinion, attaches itself to animal and vegetable articles of food, and thus finds its way into the system. How the chlorine is evolved to effect this extraordinary purpose is left in a convenient state of obscurity. We are only surprised that the writer did not recommend doses of sulphuric acid and black oxide of manganese, to ensure the evolution of the disinfecting agent on which the powers of the remedy are stated to depend. But there was another course plainly open to him, if he were inclined to have the remedy fairly tried,—namely, the use of occasional doses of chlorine water, or of chloride of lime. This might have shown, however, too conclusively the fallacy of his views and the absurdity of his suggestions. It would not astonish us to learn that this letter had been the means of thoroughly salting some hundreds of her Majesty's lieges who have implicit faith in newspaper remedies. The only satisfaction is, that much harm will not be done by the use of the supposed remedy, and it will convey that confidence to the minds of the more credulous portion of the public which will have greater power in preventing an attack of cholera than the evolution of chlorine in the stomach from the supposed decomposition of common salt.

We thought we had exhausted the subject, but we find that there are still some other letters which require notice. Our remarks upon these must be reserved for another occasion.

THE cholera is still on the increase, the deaths from this disease during the past week having been more numerous than in any previous week. They amounted to the large number of 926, being thus distributed according to the respective ages :—

Under 15 yrs.	15 to 60.	Above 60.
280	522	124

The greatest amount of mortality is still observed on the south side of the river. The reports published in another part of this journal show that the disease is now universally diffused throughout the country; and from the intelligence which reaches us from the United States, it appears to be equally prevalent and fatal in North America.

The subjoined table contains the daily reports of cases and deaths since our last :—

	Attacks.	Deaths.
August 3.		
In London and vicinity . .	331	137
In England and Wales . .	305	131
In Scotland	40	19
Total	676	287
August 4.		
In London and vicinity . .	193	75
In England and Wales . .	243	131
In Scotland	46	18
Total	482	224
August 6.		
InLondon and vicinity . .	451	182
In England and Wales . .	375	162
In Scotland	72	37
Total	898	381
August 7.		
In London and vicinity . .	332	135
In England and Wales . .	418	191
In Scotland	27	17
Total	777	343
August 8.		
In London and vicinity . .	201	70
In England and Wales . .	348	155
In Scotland	29	18
Total	578	243

Reviews.

The Cyclopædia of Anatomy and Physiology. Edited by R. B. Todd, M.D. F.R.S. &c. Parts 34, 35, 36. Longman and Co. 1849.

We are reminded, by the appearance of three parts, that it is some time since we gave our last notice of this excellent publication.

In Part 34, a very comprehensive article on "*Semen*" is furnished by those distinguished physiologists, Drs. Wagner and Leuckhardt.

The so-called "spermatozoa" have, until a very recent period, been assumed to be independent animal organisms, or parasitical animals. This assumption, however, is not reconcilable with our present knowledge of the nature and development of these bodies, based, as it is, principally upon the discoveries of R. Wagner, Von Siebold, and Kölliker.

"With our present means of a scientific diagnosis, it can be proved that the formations in question are mere elementary constituents of the animal organization, like the ova,—constituents equally as necessary for the spermatic fluid as the blood-globules are for the blood. The remarkable phenomena of the life of spermatozoa are quite analogous to those phenomena of motion observable not only in animal formations, but also in vegetable structures; as, for instance, in the spores of the algæ, and of the lower species of fungi, in the so-termed vibrioves which grow out into the fibres of the conferva called 'hygrogrocis.'

"The denomination of 'animalcula spermatica or spermatozoa,' is based upon the assumption that these moveable elements of the semen are animated organizations endowed with all the attributes of animals; and they were accordingly classified among the Infusoria or Helminthia. Kölliker, the first who most distinctly expressed the assertion that the so-called spermatozoa are mere elementary parts of the organization,—mere histological elements,—applied to them the name of *fila spermatica;* a designation which would certainly be appropriate if all the formations in question possessed a linear form. We shall principally use for the future the old name of spermatozoa, admitting at the same time that it is not quite a suitable one." (p. 472.)

About fifty different varieties of spermatozoa are figured among the illustrations to this article. In the Mammalia the spermatozoa are slender and linear, swollen so as to form a body at what is called the anterior end, and elongated posteriorly into a long and very finely-pointed tail. The form of the body varies considerably; the fundamental form is a flattened oval, as in man, the monkey, the cat, and the majority of mammalia. In the squirrel the body is very expanded and thin, like a fine transparent leaf; and in the rat, the body is very long, but narrow in proportion, and bent like a sabre at its anterior extremity.

The *development* of the spermatozoa takes place among the mammalia in the interior of vesicle-shaped globules which fill up the separate little canals of the testicles in great quantity. At first the spermatozoon is seen lying in the interior like a slight linear shadow. It is only gradually that it assumes a distinct appearance, the body being first recognizable, and then the tail. The entire spermatozoon lies in a curved shape close to the wall of the vesicle, until it has reached its full development, when it becomes free by the bursting of the vesicle. One single spermatozoon only is developed in each vesicle.

The spermatozoa of *Birds* possess uniformly a body of a long and slender shape, which gradually passes off into the posterior tail-like portion, which is slender and filiform, and twice the length of the body. The development of the spermatozoa of birds is essentially the same as among the mammalia. Each vesicle of development produces one spermotozoon. Frequently from three to sixteen cells of development are enclosed in one common cell. The enclosed cells of development are equally as capable of producing the spermatozoa as the free ones. On the destruction of the membrane of the enclosed cells, the spermatozoa get into the interior of the cyst. In the cock, the pigeon, and other birds, the spermatozoa lie together irregularly in the interior of the cysts; but in the singing birds they are associated in very definite fascicles. The spermatozoa of the singing birds possess a peculiarity of form distinguishing them from all others, as in them the body makes a series of spiral twists, which give it the appearance of a cork-screw. Whilst those spermatozoa which have cylindrical bodies are dispersed without

order in the canals of the testicle, those of the singing birds are generally met with in regular bundles.

The spermatozoa of *Reptilia* possess the same shape as those of birds; that is to say, an oblong cylindrical body, and a very fine hair-like tail.

In the class of *Fishes*, the spermatozoa occur in two forms: the spermatozoa of the osseous fishes consist of a very small globular body and an extraordinarily thin, hair-like, long tail; while those of the Plagiostome fishes are similarly formed to those of birds, they being long, filiform, and furnished with an anterior cylindrical body.

The development of the spermatozoa in fishes and reptiles does not differ materially from that which occurs in birds.

For the description of the spermatozoa in the Mollusca, Articulata, and Radiata, we refer our readers to the article itself, our notice of which we conclude by extracting the following observations on the

"*Motions of the spermatozoa.*—The opinion of an internal organization of the developed seminal elements was not a little supported by the various remarkable phenomena of motion which were frequently perceived in them. In former times, when people had no idea of the existence and extent of the so-called automatic phenomena of motion which take place without the intervention or influence of the nervous system; when nothing was known of the motion, very similar to a voluntary one, which exists even in plants,—this movement was certainly calculated to place the independent animal nature of the spermatozoa almost beyond a doubt. But it is different now. We now know that motion is not an exclusive attribute of animals, and that an inference respecting the animal nature of the formations in question, however similar the motion observed in them may be to that of animal organizations, is a very unsafe and venturesome one. We know that certain elementary constituents, animal as well as vegetable, possess a power of movement, and that they even retain it for some time after having been separated from the organisms to which they belonged. We only here need remind our readers of the so-called ciliated epithelia, the several cells of which swim about in the fluid surrounding them, and which, when in this state, have not unfrequently, and that even quite recently, been considered as independent animals; how, further, the spores of the algæ possess motion by the aid of a ciliated investment, or of a single or manifold long whip-like fibre, until they eventually become fixed, and develope themselves into a new plant. Under such circumstances we may consider ourselves perfectly justified in declaring every attempt to prove the parasitic nature of the spermatozoa, by the characteristic of their peculiar motions, as futile and inadmissible. Development, structure, and composition are the decisive characteristics in this respect, and these prove the fructifying elementary constituents of the body in which they are formed. The motions of the spermatozoa are therefore in their essence identical with the above-mentioned automatic motions of cilia, &c. But the knowledge of the movements of the spermatozoa will always be interesting and important; because, of all these phenomena, it is undeniably most closely connected with the locomotive motions of animals." (p. 502-3.)

Dr. Todd, the distinguished editor of the Cyclopædia, contributes two short articles on *Sensation* and *Sensibility* — subjects which are closely connected with his valuable and comprehensive article on the Physiology of the Nervous System. We particularly invite the attention of our readers to the following passage on Reflex Sensations:—

"*Reflex sensations.*—The physical change developed in the production of an objective sensation at one part, may give rise to what may be compared to a subjective sensation in another and a remote part of the body. The irritation of a calculus in the bladder will give rise to pain at the end of the penis, or to pains in the thighs. The object by which the irritation of the bladder is excited cannot exercise any direct influence on the nerves of the penis or of the thigh: through the nerves of the bladder it excites that portion of the cord in which both the vesical nerves, and the nerves of the penis and of the thigh, are implanted; and thus the latter nerves are stimulated at their central extremities through the influence of the peripheral stimulation: in other words, the physical changes excited in the first are reflected into the second.

"Sometimes distant and apparently wholly unconnected parts may be affected in this way. Thus irritation of the ovary will cause pain under the right or left mamma; stimulation of the nipple, whether in male or female, gives rise to peculiar sensations referred to the genital organs; ice suddenly introduced into the stomach will cause intense pain in either supra-orbital nerve; acid in the stomach is apt to cause a similar pain, which may be very quickly relieved by the neutralization of the acid. Phenomena of this kind imply some closeness of con-

nection between the nerves of the sympathizing parts in the centre, probably by means of commissural fibres connecting the respective points of implantation of the nerves with each other." (p. 510.)

We must refer our readers to the elaborate articles by Dr. Brinton, on *Serous* and *Synovial Membranes*, and on the *Seventh Pair of Nerves*.

Dr. Carpenter gives an article containing the result of his researches into the structure of shell. It has been the prevalent doctrine that shell is completely *inorganic*, being composed of an *exudation* of calcareous particles cemented together by animal glue. It may now, however, be stated as an ascertained fact, that shell always possesses a more or less distinct organic structure; this being in some instances of the character of that of the *epidermis* of higher animals, but in others having a greater resemblance to that of the *dermis*, or true skin.

The greater portion of the 35th part is occupied by an elaborate article from the pen of Mr. Maclise, on the Skeleton. We shall reserve our analysis of this article for our notice of Professor Owen's Lecture on the Nature of Limbs, and of Mr. Coote's work on the Homologies of the Skeleton.

The article on *Sleep*, by Dr. Carpenter, which is commenced in the 35th and completed in the 36th part, may be regarded as a good physiological summary of our knowledge of this singular condition. Dr. Carpenter divests *Mesmerism* of its romance. His remarks are worthy of the attention of the noble and reverend members of the Bristol "Mesmeric Institute," whose researches on mental travelling, introvision, the power of prophecy, &c., have been recently brought prominently before the public through "the ordinary channels of information."

"That there is much of reality mixed up with much imposture in these phenomena, is a conclusion at which most candid persons have arrived who have given their attention to them; and we have little doubt that a searching investigation, carried on under the guidance of his (Mr. Braid's) results, would lead to something like a correct discrimination between the two. The induction of mesmeric somnambulism appears to us to be fully explicable by the facts we have previously stated as to the influence of the mental condition of the patient—namely, the state of expectation, and the additional confidence derived from the mental impression produced by the operator—and as to the effect of the fixation of vision. The ordinary phenomena of the mesmeric somnambulism itself are in most respects identical with those of hypnotism, except in this particular—that there seems to be a peculiar relation between the somnambulist and the mesmeriser, which does not exist between the somnambulist and any other individual, excepting one who is *en rapport* with the mesmeriser. This relationship may perhaps be not unreasonably regarded as the result of a dominant idea, which possessed the mind at the moment of falling asleep, and which continued to influence it so long as the somnambulism lasts. We have examined into the history of many cases, in which it was affirmed that mesmeric sleep was induced without any consciousness on the part of the subject of it that any influence was being exercised; but we have never been able to satisfy ourselves that such was unequivocally the case. When the patient was *expecting* the performance, and was waiting in quiescence for its commencement, the expectation alone was sufficient to induce the sleep. When the patient had *no* such expectation, all attempts to produce the sleep, that have come to our knowledge, have completely failed. Hence we are strongly inclined to the belief that the relation between the mesmeriser and the somnambulist is one of a purely mental character, and not the result of any new physical power. With regard to what have been termed the "higher phenomena" of mesmerism, we believe that, without regarding them as the result of intentional deception, most of them are capable of receiving a very simple explanation on the principles already laid down—namely, that in the state of somnambulism, the senses, or some of them, are often endowed with a wonderful acuteness, which causes the mind to be acted on by impressions that might be affirmed to be too faint to be perceived; and that these impressions will suggest trains of thought, and give rise to respondent actions, which are frequently of a kind that the will *could* not produce. As to the reality of the so-called *clairvoyance*, repeated personal examination has led us to a negative conclusion. The sources of fallacy arising from the causes we have mentioned, as also from the tendency on the part of the bystanders to afford assistance by asking "suggestive" or "leading questions," and from their disposition to interpret the least shadow of a resemblance into a complete coincidence, are such as greatly to diminish the wonder that a firm belief in the reality of these phenomena should be entertained by many persons of excellent judgment and

great discrimination and acuteness as to all ordinary matters." (p. 696-7.)

Dr. Carpenter also contributes a short paper on *Smell*. This is followed by an article on *Softening* and *Induration* from the pen of Dr. P. M. Duncan. Under the head of *Solipeda*, we have an excellent description of the anatomy of the horse, by Mr. Rymer Jones, illustrated by many well-executed wood-engravings. The *Spinal Accessory Nerve*, and the *Spinal Nerves*, are successively treated by Dr. John Reid and Mr. N. Ward; and the thirty-sixth part is brought to a conclusion by an article on the *Spleen*, by Professor Kölliker.

We shall conclude the notice by observing, that while Dr. Todd's Cyclopædia maintains its high position as a work of reference in Anatomy and Physiology, the successive parts of it are now issued with great regularity.

The History, Diagnosis, and Treatment of the Fevers of the United States. By Elisha Bartlett, M.D., Professor of the Theory and Practice of Physic in the Medical Department of Transylvania University; Member of the Academy of Arts and Sciences; Author of an Essay on the Philosophy of Medical Science, &c. 8vo. pp. 534. Philadelphia: Lea and Blanchard. 1847.

This work, written in a simple, unaffected style, must add to the reputation of American medical literature.

The author divides his subject into four parts. In the first he considers Typhoid Fever; in the second Typhus; in the third Periodical Fever—including the intermittent, bilious, remittent, and congestive varieties; and in the fourth, Yellow Fever.

The author's description of *Typhoid Fever* is exceedingly accurate and minute: this is, in fact, the fever of his district, and has been constantly under his own observations for twenty years. Twenty-three pages are devoted to a careful account of the symptoms of the disease: we quote the following passage from the chapter on Typhoid Fever as an illustration of his style.:—

"*Cutaneous eruptions.*—The most frequent and characteristic eruption upon the skin consists in what has been called the lenticular rose-coloured spot. This, indeed, is so common in typhoid fever, and so rarely seen in any other disease, that it has received the name of *typhoid eruption*. It consists of a small spot, not a pimple, slightly elevated above the surrounding skin, not always sensible to the touch, but generally so, about as large in circumference, on an average, as the head of a pin, and of a bright red, or rose colour. When the skin is made tense, or pressed by the finger, the spot readily disappears, returning immediately on the removal of the pressure.

"There is good reason to think that this eruption is almost an invariable accompaniment of typhoid fever. It is true that amongst thirty-six fatal cases, where the eruption was sought for, Louis found it in only twenty-six. So, in the Massachusetts General Hospital, Dr. Jackson found, during the years 1833, 1834, and 1835, the rose spots in only two-thirds of the patients. But it is very probable, that in many of these cases, the eruption was either overlooked, or that it had disappeared before the patients came under the care of their respective physicians. All the grave cases, which recovered, cited by Louis, excepting three, and all his mild cases, without any exception, exhibited this eruption. Dr. Hale found the rose spots in one hundred and seventy-seven of one hundred and ninety-seven cases, and in a greater part of the remaining twenty they were not carefully sought for." (pp. 59-60.)

The following passage is from the chapter on anatomical lesions:—

"*Small intestines.*—In all cases of typhoid fever there is lesion of the small intestines. This lesion is peculiar. It is found in no other disease. It is generally extensive. Constituting, as this lesion does, the characteristic, and, of course, the most interesting and important pathological element of typhoid fever, I shall describe it with all possible accuracy and completeness.

"The invariable and characteristic lesion found in the small intestines, to which allusion has been made, consists in alterations, differing somewhat in different cases, of the *elliptical plates*, or *Peyer's glands*. The condition in which these bodies are found varies with the duration of the disease, with the distance of the plates themselves from the ileo-cæcal valve, and with other circumstances, the nature of which is unknown. Without entering into so minute and elaborate a description of the several forms of this lesion, as has been very properly given, in the original researches of Louis and Chomel, I shall enumerate the principal and more striking varieties.

"In a small proportion of cases, consist-

ng of those which terminate early, the elliptical plates, together with the subjacent cellular tissue, are merely increased in thickness, with redness and softening. This increase of thickness is such, that the edges of the plates project to a distance of from one to two or three lines above the surrounding mucous membrane. Sometimes the hypertrophy of the plates and of the subjacent tissue is quite simple, the colour and consistence of the membrane remaining unaltered. This simplest form of the lesion that I am now describing, like all the others, which are more complex, is invariably found most advanced, and most strongly marked at the lower extremity of the ileum. Each successive plate, as we go upward along the intestinal tract, from the ileo-cæcal valve, is less and less profoundly altered, till we arrive at those which are in a natural condition. The number of plates thus changed is very various; sometimes extending to fifteen or twenty, and at others limited to one or two, and these always in the immediate neighbourhood of the ileo-cæcal valve. Louis says, that in two-thirds of the cases, the number of plates, more or less altered, is from twelve to forty.

"The surfaces of the thickened plates frequently present a granular or finely mamellonated appearance, occasioned by an enlargement of the gray orifices of the cryptæ, which go to make up the plates. This condition becomes very manifest when the gland is detached from its subjacent tissue, and held between the eye and the light. At other times, the surface of the thickened membrane, corresponding to the plates, is quite smooth and level.

"In a great majority of cases, the plates, instead of being merely thickened, with or without redness and softening, are more or less extensively the seat of ulcerations. These ulcerations vary very much in size and in number. It frequently happens, for instance, that in proceeding from above downwards, in our examination, after having passed over several plates, simply thickened, we come to one of them in which there is a single circumscribed ulceration, with perpendicular edges, extending more or less deeply into the thickened tissues. As we go on towards the termination of the intestine, the ulcerations become more and more numerous and extensive, till at last, for several inches next to the valve, the plates are entirely destroyed, and we find only ulcerations, corresponding to their sizes and shapes, occupying their places.

"These intestinal ulcerations are commonly more or less regularly rounded or oval in their shape. Sometimes, however, their borders are irregularly jagged and angular. So, their edges are, in most cases, pretty regularly perpendicular and smooth, but sometimes they are ragged and shreddy. The bottoms of the ulcerations vary, of course, with their depths. They consist sometimes of the cellular tissue immediately under the mucous membrane; sometimes, of the muscular coat, and sometimes of the peritoneal covering. Occasionally, this covering itself gives way, perforation takes place, and the contents of the intestine are discharged into the cavity of the peritoneum. Louis found this lesion in eight of fifty-five cases." (pp. 71-73.)

The author is not one of those who regard this lesion as the fons et origo mali, but as peculiarly important in a diagnostic point of view, and judiciously remarks—

"The lesion of the elliptical plates seems to me to bear somewhat the same relation to typhoid fever, considered as a disease, as that which their several characteristic eruptions bear to measles, scarlatina, and small-pox. In none of these have we any right to regard the cutaneous eruptions as the causes of the symptoms, and of the other various phenomena, which go to make up the several diseases themselves." (p. 82.)

As causes of the disease, our author enumerates locality, season, contagion recency of residence; while filth and crowding, (Ochlesis) exposure and excesses, he does not believe exert any obvious influence in the production of the disease. The question of contagion is treated in a careful manner. After quoting the neutral and negative opinions of Louis and Andral, and the positive opinions of Chomel, Bretonneau, Leuret, Gendrin, &c., among the French, and Nathan Smith and Jackson among the Americans, he philosophically reserves his own opinion We agree with Dr. Bartlett in thinking that medical writers are

"Somewhat too ready, in the present state of our knowledge, to consider all cases of the disease, that are in any way susceptible of being accounted for by the action of a contagious principle, to be, certainly and necessarily, so accounted for." (p. 98.)

Dr. Bartlett produces strong evidence to show that there is exemption from second attacks of this disease. The chapter on diagnosis is very good, and evidently written by the author with full reference to his own experience.

In the chapter on the theory of the disease the author justly remarks—

"*The word fever, when used, as it commonly is, to designate a disease, has no in-*

telligible signification. It is wholly a creature of the fancy: the offspring of a false generalization, and of a spurious philosophy. What, then, can its *theory* be, but the shadow of a shade?" (p. 136.)

Dr. Bartlett rescues Louis from the charge of having adopted the views of Broussais,—a misapprehension which, he states, has been fallen into even by such a man as Dr. Christison.

"It is, however, so far from being true that Louis has ever adopted the doctrine of Broussais, in relation to the nature of fevers, that no other observer has done so much in overthrowing his peculiar principles. He has ever been the most formidable and successful antagonist of that extraordinary man; opposing, in the calm confidence of a truth-loving, and truth-seeking spirit, to the arrogant assertions and to the seductive generalizations of the highest genius,—maintained and vindicated, as they were, by a strength and an eloquence of language unequalled in the annals of medical literature,—the impregnable and serried array of facts and their relations, carefully and positively ascertained." (pp. 137-138.)

In analysing the nature of the disease, its characteristic lesion, namely, that of the elliptical plates of the ileum, is first examined. It is undoubtedly of an inflammatory nature, but the inflammation is not common and simple, it is peculiar and specific. "It is circumscribed, and not diffused as ordinary inflammation of the mucous tissues is. It does not lose itself, gradually shading off into healthy membrane." Upon this fact our author rests his opinion of the secondary nature of this appearance, supported by Chomel, who says, that one of the most constant and uniform characteristics of *secondary lesions*, consisting generally of specific inflammations, is the fact of their being disseminated,—of their occupying numerous and circumscribed spots in the tissues and organs of the system,—examples of which are presented in the eruptive fevers and Oriental plague—in successive crops of furuncles—in scrofula—syphilis—scirrhus and cancer. These cannot be produced by any of the ordinary excitants of common inflammation.

This view of the subject places it, in point of theory, exactly in the position of the eruptive fevers, with an equal chance of additional light being thrown upon it by further discoveries.

In the chapter on treatment, the author details the several methods adopted by Jackson, Nathan Smith, Chomel, Louis, Bouillaud, and De Larroque.

With the exception of the two latter, these physicians agree in adopting a rational and expectant plan, relieving the more severe inflammatory symptoms by depletion, and using tonics and stimulants in the adynamic state. Louis believes that in most cases the disease would be shortened by a few days, if a moderate bleeding at the commencement were adopted.

Bouillaud, by carrying out on a large scale his peculiar view,—that the disease was to be cured by bleeding repeatedly (*coup sur coup*), proved that this was a less fatal measure than it was previously supposed to be; and De Larroque's plan of giving emetics and cathartics, regardless of the condition of the patient or the period of the disease, does not appear to have been followed by such consequences as to have led to its immediate abandonment by less enthusiastic practitioners than himself. Our author adopts the rational and expectant plan; and advises that in all grave cases when there is stupor or delirium, the bladder should be carefully examined, to guard against the evil of retention of urine.

In considering *Typhus Fever*, the author tells us that here his information is less complete; partly because he has seen much less of the disease, and partly because the literature on this subject is less perfect—"it is more frequently mixed up and confounded with other diseases by its best historians"—than is typhoid fever. By typhus is meant an idiopathic contagious fever, not marked by any constant lesion of solids, synonymous with hospital, gaol, camp, malignant, putrid, and petechial fever. The descriptions of the disease are chiefly derived from Irish and Scotch physicians; the author's experience being confined to importations from the British Isles. To do him justice, the difficulty under which he labours only renders him more determined to obtain clear and definite ideas of the disease; and his chapter on Diagnosis is exceedingly good. We quote the following tabular summary of differences which is given at p. 274:—

Typhoid Fever.	Typhus Fever.
1. *Mode of Access.* — More generally gradual, insidious, and creeping, than in typhus.	1. More frequently sudden and formal (?) than in typhoid fever.
2. *Heat of Skin.*	2. More frequently burning and pungent, during the early stages, than in typhoid fever. Fuliginous flush of face more common than in typhoid fever.
3. *Mind.*—Delirium and other cerebral symptoms coming on, and increasing gradually, after the first week, more generally than in typhus.	3. Cerebral symptoms, especially dulness and stupor, more stronly marked at the onset of the disease than in typhoid fever.
4. *Bowels.*—Diarrhœa, with thin liquid discharges, very common. Gurgling on pressure over region of cæcum. Meteoric distension or rigidity of abdomen. Griping pains common.	4. Spontaneous diarrhœa rare. Discharges from bowels not liquid. No gurgling on pressure over region of cæcum. Meteoric distension very rare. Griping pains rare.
5. *Emaciation.* — More common and greater than in typhus.	5.
6. *Epistaxis.*—More common than in typhus.	6.
7. *Hæmorrhage from the Bowels.*—Quite common.	7. Very rare. Does it ever occur?
8. *Cutaneous Eruptions.*—Bright, scanty, rose-coloured eruption; slightly elevated above surrounding skin; readily disappearing on pressure; mostly confined to skin of chest and abdomen.	8. In many cases, especially grave ones, more abundant petechial eruption; not disappearing on pressure:—in other cases, no eruption.
9. *Eschars.* — More common than in typhus.	9.
10. *Lesions.*—Peyer's glands always altered; generally ulcerated. Mesenteric glands reddened, enlarged and softened. Spleen more frequently enlarged and softened than in typhus. Ulceration of the pharynx and œsophagus more common than in typhus. Large intestines more frequently distended with gas than in typhus.	10. Peyer's glands and mesenteric glands healthy. Blood more generally dark and grumous. Dark engorgement of vessels and sinuses of brain more constant than in typhoid fever.
11. *Causes.*—Confined to no geographical localities. Prevailing constantly and extensively amongst scattered, cleanly, well fed and well sheltered rural populations. Occasionally and moderately contagious. More frequently sporadic than typhus. More generally limited to the early and middle period of life than typhus.	11. Limited to certain geographical localities. Generally confined to crowded, filthy, and poorly-ventilated habitations. Under such circumstances eminently contagious. Occurring much more frequently after the thirty-fifth year of life than typhoid fever.
12. *Duration.*—Average duration somewhat greater than typhus. Prolonged to the fortieth or fiftieth day much more frequently.	12. Terminating fatally, or in recovery within the first ten days much more frequently than typhoid fever.
13. *Effects of Remedies.*—Bearing depletion better than typhus.	13. Requiring more active stimulation than typhoid fever. (p. 274-275.)

In the third part, which treats of *Periodical Fever*, the author selects Bilious Remittent Fever for a full description, because it embraces a larger number of the phenomena which enter into the composition of the disease than the other varieties. He is inclined to the opinion that the liver presents the specific lesion or anatomical characteristic of the disease, which is changed from the natural reddish brown hue to that of a bronze, or mixture of bronze with olive. Several observers have already testified to this fact, but it remains to be more fully determined by more extensive experience.

We will not occupy space by noticing the simple intermittent form; but we will extract the author's description of

the algid variety, with which the inhabitants of this country are fortunately not acquainted.

"*Algid variety.*—Algid fever is not generally, as has been said, a mere prolongation of the cold stage of a paroxysm. I have rarely seen it commence in this manner. There is between these two conditions a striking contrast even. In the first stage of a simple paroxysm, the sensation of cold is out of all proportion to the actual diminution of the temperature of the surface, while in algid fever the cold is not felt by the patient, even when the skin is icy. It is commonly during the period of reaction that the characteristic symptoms begin to show themselves; often they supervene suddenly in the midst of a reaction which appeared to be open and frank. The pulse becomes slow, flags, and disappears; the extremities, the face, and the trunk, become successively and rapidly cold; the abdomen alone preserves a slight degree of warmth, the skin feels as cold as marble; the tongue, whatever may have been its appearance at the commencement, becomes flat, white, moist, and cold; there is no thirst; and if the patient is induced to drink, the liquid is frequently returned as if by regurgitation; the lips are colourless, the breath cold, and the voice broken; the action of the heart is slow, feeble, and struggling, appreciable only by auscultation; the mind is unimpaired, and the patient may seem to enjoy even this state of repose, especially when it has succeeded to a violent fever; his physiognomy is without mobility, the most absolute impassivity is stamped upon his countenance; its expression is dead. It is only when vomitings and choleric discharges are added to this algid condition, that the eyes become sunken and glassy, and are surrounded by a blue circle; and it is only when the respiration is carried on through the open mouth that the tongue becomes dry and dark coloured. The march of this variety is very insidious; there is no one, perhaps, whose vigilance has not been deceived by it. If one is not familiar with this state of things, the kind of calm which follows the febrile excitement may easily be mistaken for a great amelioration, attributable perhaps to sanguineous depletions, and the mistake is revealed only by the sudden and unlooked-for death of the patient." (p. 356-357.)

Dr. Bartlett declares that the treatment of periodical fever consists chiefly in the exhibition of Cinchona, or its valuable preparation the Sulphate of Quinine. It may be necessary to adopt other measures in addition, but in all the countries where this form of fever extensively prevails, experience has taught practitioners that the theories which suggest the necessity of relieving the local congestions before recourse is had to this remedy are unsound, and that the readiest way of accomplishing this is to cure the disease on which alone these congestions depend: and this is chiefly to be accomplished by the specific febrifuge or antiperiodic action of the cinchona.

Of *Yellow Fever* the author admits he has never seen a case: he is desirous of rendering his book complete on the fevers of the United States, and therefore substitutes for clinical study a clear and systematic summary of what has been written by those observers in whom he places the greatest confidence. The physiognomy of the patient affected with this remarkable disease is thus described by Dr. Lewis, of Mobile:—

"The physiognomy of the disease is striking and peculiar. I have not noticed, however, any of that wild ferocious expression of eye and features which is spoken of by many writers. There is usually an attempt, on the part of the patient, to appear amiable and indifferent, seldom becoming peevish, or losing temper. The expression of which I am speaking is, in many cases, stamped upon the brow at an early period; and, 'once enthroned,' no effort of the patient can disturb its reign;—he may smile and laugh, but he cannot chase it away: there it still sits, mocking the assumed gaiety and levity of its victim. Even the cradle is not exempt from its visitations: within the last hour I have seen a child, but fifteen months old, over whose brow this mysterious fiend has spread its gloomy mantle, giving to the little patient a dejected, cheerless, and earnest look, ill suited to its infant face." (p. 425.)

The state of the mind is very peculiar:

"*State of the mind.*—Delirium is rarely present, excepting for a short period, varying from a few hours to a day or two preceding death; it is very rarely wild and violent, and in many cases the mind remains clear quite to the close of life. 'In no other grave malady,' says Bally, 'do the intellectual faculties maintain themselves with such entire integrity as in this: it is a singular phenomenon—that of the presence of mind preserved to the last instant of life.'

"Dr. Barrington says, there is often an inclination to sing; Dr. Lewis says, the delirium consists in joking, singing, or idle *chit chat*; and Dr. Harrison speaks of the

little tricks of the patients, the kind of perverse pleasure which they manifest in thwarting the designs of their nurses and physicians, and their great delight at the success of their schemes, as characteristic rather of a species of insanity than febrile delirium.

"The kind of stolid indifference of patients in this disease has often been noticed. The editors of the New Orleans Medical Journal say,—'It is remarkable to witness the indifference with which the victims of yellow fever in the Charity Hospital seem to view death. The large congregation of sick and dying seems to render them familiar with his face, and to rob him of more than half his terrors. After entering the hospital, and witnessing the dying struggles of some half dozen or a dozen fellow-sufferers, they meet their fate with composure, and quietly resign a life which, perhaps, to many of them, had presented naught but a varied scene of toil and care.' Dr. Rush and Dr. Lewis, of Mobile, speak of occasional cases, not attended with delirium, in which the patients after recovery retain no recollection of what took place during their illness.

"Coma is an uncommon symptom; but sometimes grave cases are marked by different degrees of drowsiness and stupor. The sleep is generally disturbed, and the patients often harassed by distressing dreams." (p. 423-4.)

The most striking lesion appears to be in the liver: the colour of this organ is said to resemble that of fresh butter; sometimes it is of a straw colour; sometimes that of coffee and milk; or in other instances of mustard and orange. The black vomit, always a most dangerous symptom, is ascertained to be gastric hæmorrhage diluted with gastric secretion. The subject of contagion is dwelt on at length: this has afforded food for the most bitter controversies. Our author's statements are sufficient to induce us to congratulate ourselves that the *Eclair* has not rendered us more familar with this dreadful disease.

Dr. Bartlett tells us that the treatment of yellow fever is not yet settled: that the weight of evidence is against the mercurial plan, upon which some so confidently rely; and he adopts the following conclusions:—

"The simple and milder form of yellow fever, occurring sometimes in unacclimated adults, but more frequently amongst the acclimated or partially acclimated, and in children, usually terminates favourably, independent of any of the ordinary modes of treatment. Perhaps this termination is promoted by a mild but efficient cathartic.

"The open inflammatory form of the disease is mitigated in severity, and its danger diminished, by prompt and pretty free blood-letting—general and local; and by an efficient cathartic.

"The congestive form of the disease, and the other forms, if they pass into the stage of collapse, usually terminate fatally, and are but little under the control of art." (p. 514.)

Our notice of this work has already extended to a considerable length, and we will only add that we think it an important and well-digested book. The distinction which is made between typhoid and typhus fevers is, we think, perfectly correct, although we believe it has not been so satisfactorily made by writers who have observed these diseases in this country. To those who are proceeding to, or occupying, localities where the severer forms of periodical and yellow fever are rife, we think Dr. Bartlett's pages will afford useful and sound information.

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1. *Observations on the Nature and Treatment of Pulmonary Consumption.* By Thomas Woods, M.D., &c., Surgeon to the Lockeen and Leap Dispensaries. 8vo. pp. 95. Parsonstown: Shields and Son. London: Aylott and Jones. Dublin: Cumming and Co. 1847.
2. *Cold and Consumption; or Consumption, its Prevention and Cure, by Cold, as a constitutional, and Inhalation, as a local Agent; involving the Causes, Symptoms, Medicinal Treatment, &c.: with a Sketch of the Anatomy and Physiology of the Respiratory Organs.* By Henry C. Deshon, Member of the Royal Colleges of Physicians and Surgeons of London, &c. 8vo. pp. 153. London: Renshaw. Exeter: Balle. 1847.
3. *Consumption of the Lungs and Asthma arrested and cured, in the majority of cases, by Inhalation and other rational means; containing all the remedies and plans that are necessary in every stage of those diseases: also, the means of curing Influenza, Cough, Bronchitis, Sore-throat, Hoarseness, Inflammation of the Lungs, &c.* By Daniel Carr, M.D., Author of "Advice on the Diseases of the Stomach, Liver, &c., arising from Indigestion." Small 8vo. pp. 203. London: E. Wilson. Edin-

burgh: Fraser. Glasgow: Smith. Dublin: Cumming. Manchester: Leresche. 1847.

The first of these works, professing to be written for the benefit of the profession, commences with an introduction of fifteen pages of mere elementary physiology, which, however useful in a typographical, cannot be admitted to be equally so in a pathological view. It is scarcely to be hoped that all that is worth knowing on the chemistry of assimilation, nutrition, diet, &c., can be contained within such narrow limits; and less than this extent of knowledge is nearly useless to any one who undertakes to give information on the nature and treatment of a disease which has hitherto baffled the energies and the talents of the most able and the most persevering pathologists. Dr. Woods' outline of the symptoms and causes of phthisis is carefully collected from, and compared with, the writings of the best authors; his theory of the ultimate pathological nature of phthisis is founded on Liebig's hypothetical views regarding the action of oxygen on the tissues and secretions of the animal frame.

An excess of oxygen in the blood is first assumed to exist in all cases of phthisis; then the presence of tubercle in the lung is regarded by the author as a provision of nature to cut off the further action of the oxygen of the air on the tissues and fluids; and he quotes, in support of these views, Mr. Hutchinson's experiments, which showed the diminished capacity of the lungs in phthisis, in the later stages, to be as 34 is to 204.

We may observe, in reference to this theory of the excess of oxygen in the blood of phthisical patients, that, from an extensive series of analyses by himself and others, Simon states the only difference between phthisical and healthy blood to be a slight increase of fibrin. It yet remains to be proved that the quantity of oxygen is increased.

Another mode which nature adopts for disposing of this surplus oxygen, the author informs us, is increased activity of the liver. This squares with Liebig's theory of the combination of oxygen with the bile; but while in this disease we have not seen an invariably increased activity of the functions of the liver, we have frequently met with the opposite condition. The theory here referred to introduces to us the author's *principle* to which he adapts his treatment—viz. *increasing the quantity of bile, in order to saturate more than the ordinary portion of oxygen, thereby diminishing its amount with respect to the system, and arriving at the same end by stimulating the system itself both to withstand the invasion of the gas, and to assimilate more vigorously.* (p. 62.) To this iatro-chemical principle of absorbing and eliminating oxygen by bile, medicines, diet, climate, clothing, exercise, light, &c., are all subordinate! Turpentine and ammonia are the remedies to which our author mainly trusts.

In this notice of Dr. Woods' work, we desire to be understood that, while demurring to his fanciful chemical theories, we by no means wish to underrate his professional acquirements. The book demonstrates that the author is a man of cultivated mind, and that he has an extensive acquaintance with the present rapid strides of physiological and pathological chemistry,—a species of knowledge which is more frequently to be found in the schools than among practitioners involved in the distractions and anxieties of daily engagements. It cannot be a matter of great surprise if those so situated should be led somewhat hastily to adopt as established theories, the crude hypotheses of an ardent imagination.

2. The title of Dr. Deshon's work appears to our feeble comprehension somewhat at variance with its contents: we must, however, confess that the former is couched in an "involved" form of words. Although the essay contains much about consumption that has been long and familiarly known, nearly all that we find devoted to the special consideration of the great *cure* referred to in the title-page consists in "cold affusion, and sponging the body with salt water, or a mixture of strong pyroligneous acid and water." (p. 143.)

3. Dr. Carr's specific for curing consumption is the inhaling process. Nothing but this, he tells us, can hold out the sure prospect of a cure; and, if neglected, the patients will, in ninety-nine cases out of a hundred, sink in spite of every other remedy that can be devised. In a highly accommodating

spirit, the author tells us that it does not interfere or clash with any plan of internal treatment—homœopathic, chrono-thermal, &c. &c.

It is needless, in a journal devoted to practical and scientific medicine, to occupy our space with further remarks on this volume. The non-professional public cannot judge of its merits or demerits, and we think professional men will scarcely undertake the task: those among them who have tried the plan of inhalation have too often experienced its failures. Nor do we think that Hydropathists and Homœopathists, Dicksonians, Isopathists, &c. &c. &c., have much whereon to plume themselves on their voluntary ally, whose pathological views have such wondrous elasticity that they can be adapted to any man's conclusions.

Observations on the History and Treatment of Dysentery and its complications, with an examination of their claims to a contagious character, and an inquiry into the Source of Contagion in its Analogous Diseases — Angina, Erysipelas, Hospital Gangrene, and Puerperal Fever. By William Harty, M.D., &c. 8vo. pp. 297. Second edition. Dublin: Hodges and Smith. London: Churchill. Edinburgh: Maclachlan, Stewart, and Co. 1847.

This is a very erudite work; and we regret that owing to various accidents we have not been able to insert a notice of it before. Its object is to establish the following positions:—

1. That the genuine and simple dysentery is unattended by idiopathic fever, and is never of itself contagious.

2. That every other form of the disease, when epidemic, is a combination of the simple dysentery either with intermittent, remittent, or continued fever.

3. That the combination with continued fever alone is contagious.

These positions, which, when the author published the first edition of his work, he thought original, he has since discovered had been previously expressed by Hoffmann.

Dr. Harty has spared no pains to add to his early production nearly all that a laborious research could gather from the labours of subsequent writers. When, however, we learn that the first edition was published forty-four years ago, we do not wonder to meet with some antiquated physiological and pathological doctrines; such as, that "rheumatism is seated, not so much in the arteries as in their exhalant extremities." These, however, it must be admitted, are but slight faults to set against a vast collection of carefully selected *facts*, logically reasoned upon, and recorded in classical language.

It is a matter of some surprise to us that so long an interval should have elapsed before a second edition of this work was called for. Its republication even now appears to have resulted rather from a kind of paternal affection on the part of the author, than from the demands of the publishers. It may be that the extremely long extracts from Latin writers, with which the book abounds, have rather retarded its sale.

We proceed without further delay to an examination of the work.

The author first explains his views and objects: these we have already given. He then considers the characters of simple dysentery, and its connection with rheumatism. This connection is fully admitted by later writers. Dr. Copland states that a rheumatic diathesis is one of the predisposing causes of dysentery.

In treating of the combination with intermittent and remittent fever, the author discusses the nature of the epidemics of 1670-71, recorded by Sydenham and Willis under the name of Dysenteria Cruentia, and disposes of them as having been cholera which had become contagious by its combination with typhus.

By far the larger portion of the entire work is occupied with the establishment of the author's third position —"that the combination with continued fever is alone contagious." Here we perceive that Dr. Harty employs the expressions continued and contagious as convertible terms when applied to fever. The proofs of this position are first drawn from the history and symptoms of some of the most celebrated epidemics of the disease: these afford the author evidence of the presence of contagious fever in the attendant circumstances, as well as in the record of the symptoms. The author next infers the presence of contagious fever from the treatment adopted.

We quote some extremely interesting

facts relative to the decline of dysentery in London, given by Dr. Heberden, jun., in his work on the Increase and Decrease of Diseases.

"At the beginning of the eighteenth century the deaths from dysentery in London were 1100; in the middle of the century, 135; at its end, 20."

This extraordinary decline Dr. Harty does not attribute solely to the improved social condition of the people, but to the disappearance of malignant contagious fever from London since the Great Plague, which he regards as nothing more or less than malignant contagious fever. We cannot so readily adopt this view, seeing that the metropolis has frequently since the period in question been the seat of malignant typhus, wholly different from plague in its symptoms, progress, and fatality.

Dr. Harty next puts the question of contagion to the vote, by a survey of the opinions of various writers for and against the doctrine: an examination and comparison of these opposite opinions leads Dr. Harty to the following conclusion: — "Dysentery, therefore, can no longer be deemed a contagious disease in itself, although capable of acquiring that property under peculiar circumstances."

Dr. Harty quotes several writers, who are also referred to by Dr. Copland, in illustration of the combination of dysentery with remittent and intermittent fever. Epidemics of this nature have been witnessed in almost all parts of the world, attendant on war, famine, &c. These Dr. Harty attributes to the presence of the combined causes—cold and miasm—which can in combination induce either of the two diseases. Where the miasm which engenders remittent and intermittent fever is present, there are also to be found cold and moisture.

The author next goes with considerable detail into the different plans of treatment which have been adopted, and arrives at the proof of his third position from the similarity of the remedial measures in the contagious form of dysentery, to those which are found to be available against typhus.

In concluding his work, Dr. Harty briefly quotes some authors whose opinions he considers to prove that anginosa maligna, erysipelas, hospital gangrene, puerperal fever, &c., are never contagious, except when combined with typhus.

Dr. Harty, as we have before remarked, has certainly spared no labour in collecting authorities in support of his opinions, for he gives us a list of *ninety-seven* authors to whom he has referred, in his book.

The theory held by the author as explanatory of the contagiousness of dysentery may or may not ultimately be admitted to be true, and sufficient to account for the fact; it has been extended to cholera by other writers: it asserts that which has repeatedly been urged upon the notice of our readers in this journal — viz. that dysentery and cholera are *contagious* under circumstances which occur not only occasionally, but with every extensive visitation of the disease. That such is the case with dysentery, we refer for proof to p. 1093 of our last volume, in which will be found an account of a recent epidemic of dysentery at Penzance, the facts of which certainly seem to bear out Dr. Harty's last proposition.

Our readers will find this work worthy of their perusal.

Correspondence.

ON THE USE OF CREOSOTE IN THE TREATMENT OF DIARRHŒA.

SIR,—May I beg leave, through the medium of your excellent journal, to lay a few facts before the medical profession relative to the treatment of diarrhœa and cholera. Having had a patient in whom vomiting continued for two days after the disappearance of cramps, hydrocyanic acid and other remedies having failed to check it, I was led to try creosote, which I found to act immediately and effectively, the patient soon after becoming convalescent, without any consecutive fever. Since then—viz. from the 1st of July to the 1st of August, I have had 224 cases of simple diarrhœa, 12 cases of rice-water purging, and 18 cases of cholera. The first 93 cases of diarrhœa were treated with the usual chalk mixture and opium, the remainder with creosote: in those treated with the former the diarrhœa continued for some days, and, when checked, was invariably followed by a disagreeable rumbling and flatus in the bowels. In the 131 cases treated with creosote, the diarrhœa *immediately* ceased, and was followed by none of the above symptoms. In the twelve cases of rice-water purging, the effect was instantaneous, the first dose generally putting a stop to the discharge. In the

eighteen cases of cholera, all of whom had vomiting, rice-water purging, cramps, and blue skin, creosote had the same decided effect, at once checking the purging and vomiting, the cramps very soon afterwards subsiding, the pulse becoming full and soft, a free perspiration breaking out over the body and extremities.

Of the eighteen cases of cholera treated with creosote, I have only lost *two*, these being far gone in collapse when I was called to them. The formula in which I use the creosote is—℞ Creosote, ♏xxiv.; Mist. Acaciæ, ℥ss.; Sp. Ammon. c. Camphora, aa. ℥ij; Ether. Chlorici, ℥iij.; Aquæ, ℥viss. M. ft. misturæ. Capiat cochl. ij. mag. omni horâ.

In simple diarrhœa I only give two drops every two hours, with the above stimulants, and no astringent whatever.

If this should meet with your approbation, I shall feel obliged by your inserting it in your next number.—I am, sir,

Your obedient servant,

CHRISTOPHER N. SPINKS.

House of Recovery, Warrington,
August 1, 1849.

ON THE INADEQUACY, IMPOLICY, AND INJUSTICE OF THE PRESENT SYSTEM OF POOR-LAW MEDICAL RELIEF.

To diminish the rate of mortality and the amount of sickness and disability among the poor by improved arrangements for the speedy detection and efficient relief of their diseases, is a matter of such vast importance to the welfare of all classes of the community, that any suggestions towards the institution of a system of medical aid superior to that which prevails under the poor laws cannot fail to interest those who are endeavouring to promote the public health. After a long experience of visiting the sick of a large Union, I am satisfied that the present method of administering medical relief is very unsatisfactory both to the poor and to the medical officers; and it is my sincere hope, on bringing the question before the public, that some attempts will be made to place this department on a better foundation.

The principal evils of the present system of medical relief arise from the circumstance of the medical officers not being responsible to a properly constituted medical authority. They are annually elected by boards of guardians, who are profoundly ignorant of everything that relates to medical science, and they are subject to their control, and to that of the Poor-Law Commissioners, who are equally uninformed upon medical subjects.

Now, if in the medical department of the army and navy the supervision which is exercised by the Director-General and the Medical Inspectors has proved to be so efficient in reducing the amount of mortality and improving the physical condition of the men, it surely is a duty incumbent on the Government to appoint similar officers for the regulation of attendance on the poor. Medical men would more readily listen to advice from one of their own profession, and feel greater confidence that, in all cases of alleged neglect, justice would be done to them, than at present, when subject to the caprice of those who are necessarily incapable of judging of the merits of any medical question.

If a medical Director-General of the Public Health, and a staff of Medical Inspectors subject to his control, were appointed (wholly apart from the Poor-Law Board), to whom were intrusted the supervision of the district surgeons, we should doubtless experience a great decrease in the amount of sickness and mortality of our labouring population, and a proportionate saving in the poor-rates and other public expenditure; we should also soon cease to hear the bitter complaints of the medical officers on being compelled, in order to retain their private patients, to attend paupers and supply them with all necessary drugs and appliances at 4d. or 6d. a case (as is really the fact in some Unions).

The re-arrangement of the medical districts throughout the kingdom would be an essential feature of any thoroughly amended system. In rural districts, the separation of private practice from medical poor attendance might not be practicable nor desirable; but in towns and crowded populations, for the sake of the poor it would be advisable to make the medical officers independent of private practice. Under the present arrangement the medical officer incurs the risk of losing his only means of support—namely, private practice—by attending to a pauper case when his services are required by a person in good circumstances. The poor then suffer from the delay, and the expense, indefinitely increased by the protracted illness of the pauper, must be defrayed by the rate-payers. If, however, it should be thought that the duties of attending to the sick of a moderate district are not sufficient to engage the whole of the time of the medical officer, he might superintend the registration of births and deaths, in order to secure greater accuracy in the returns than at present; and, as a surer preventive of crime, he might be required to verify the fact and cause of every death within his district.* The regular "house

* The Guardians of the Whitechapel Union have recently expressed an opinion that the district medical officer may insist upon visiting

to house" visitation, recently adopted with such marked success at Dumfries, should also be performed under his supervision.

The vaccination of the district, and other prophylactic measures and sanitary duties, which may, under the Public Health Act, have to be performed by district medical officers, would also form part of his duties. Thus his time might be fully and profitably employed.

Most persons are now agreed that the cost of the drugs for the use of the poor ought to be defrayed out of the local rates; and in some unions I am happy to say the guardians have adopted this system, it being manifestly unwise to place the duties of the medical officer at variance with his interest as regards the supplying his patients with expensive remedies. It is a fact that in some unions the excessive expense of dietary recommendations arises mainly from the necessity felt by the medical officers to charge the cost of the remedy on the public. They are compelled to treat certain cases by prescribing meat, brandy, and porter, instead of furnishing at their own expense æther, quinine, and sarsaparilla. The poor generally are aware that the union surgeons are badly paid; they therefore naturally infer that their medicines are of little efficacy, and in very many instances they refuse to take them. Nor is this to be wondered at, when the mode of administering medicines at an hospital is compared with that adopted by the majority of union surgeons.

By law the poor are entitled to receive medical advice and medicines when suffering from sickness, and both ought to be of the best description, otherwise the boon becomes a mockery. In towns, therefore, dispensaries should be made use of, or opened at the public expense, for the supply of medicines to the out-door poor.

With regard to the in-door paupers, the same care should be taken of every patient in a workhouse as in an hospital: each case should be entered on a paper suspended at the head of the bed, and the medicines and diet which are required for the invalid should be noted on the same paper. There should also be a resident dispenser in every workhouse, who should be required to see that each patient has his medicine properly prepared and labelled, and be in readiness to attend to every case of emergency, until the arrival of the medical officer, for cases requiring immediate assistance are of frequent occurrence in every large workhouse; besides, persons are brought by the police to the workhouse in a state of insensibility, and some have died before medical aid could be procured. The medical attendance on the workhouse ought always to constitute a distinct appointment from that on the out-door poor.

Some pseudo-economists may object to the amendments above suggested, on the ground of expense; but if they were faithfully carried out I am firmly of opinion that so far from proving more burdensome to the ratepayers, they would soon be found to diminish our parochial expenses.

The propositions briefly stated in this letter embody the main principles of medical poor relief, long since advocated by Mr. Rumsey of Gloucester, and Mr. Ceely of Aylesbury, on behalf of the Provincial Medical and Surgical Association, and therefore have received their concurrence. Nothing short of the alterations now suggested, in our opinion, is likely to prove satisfactory to the public, the poor, or the medical profession.

JOHN LIDDLE.

4, Alie's Place,
28th July, 1849.

every case of death before giving a certificate. The legislature ought to make it compulsory upon a medical officer to certify as to the fact of death in every instance.

THE MINERAL SPRINGS OF HARROWGATE.

SIR,—Permit me, through the medium of your journal, to bring before the notice of the profession a valuable spring which is much used here, but of the existence of which the majority of the profession are, I believe, unaware; and I am the more disposed to do so because this spring, in its properties and effects, is so nearly allied to the "Ragozzi," or principal spring at Kissingen—a spot which has been much frequented (as every one knows) of late years, but from visiting which at this time many are deterred by the disturbed state of the continent.

The Analysis of the two Springs is as follows:

	Harrowgate. Grains.	Kissingen. Grains.
Sulphate of soda . . .	19·9	16·
Chloride of magnesium	34·3	54·80
Chloride of calcium . .	174·7	——
Chloride of sodium . .	645·6	456·40
Carbonate of soda . .	6·4	6·56
Oxyde of iron	3·1	4·88

The quantity of carbonic acid gas in the Kissingen water considerably exceeds the quantity in the water at Harrowgate; although this gas is present in the Harrowgate water in large quantity, viz. 18·5 cubic inches in the gallon.

The value of this spring is very great in cases where the combination of an aperient with iron is a desideratum; and I have lately found it of very essential benefit in cases where the oxalic acid diathesis prevails: how prevalent this diathesis is now (as was the case also in 1832 before the outbreak of

the cholera, as was remarked by Dr. Prout) most medical men are, I presume, aware; and it may not be unworthy of remark, that many cases of cutaneous disease which are connected with this oxalic diathesis, are much more successfully treated with this water than they could be with the sulphureous waters, which rarely agree in this diathesis.

I am, sir,
Your most obedient servant,
GEORGE KENNION, M.D.

Harrowgate, July 25, 1849.

Medical Intelligence.

CASES OF CHOLERA RETURNED IN THE METROPOLIS IN THE SAME WEEKS OF SIX YEARS.

Weeks.	25th.	26th.	27th.	28th.	29th.	30th.	31st.
1844.....	1	1	—	—	2	6	12
1845.....	—	—	1	2	2	2	2
1846.....	1	3	4	8	20	26	23
1847.....	1	—	—	3	1	3	7
1848.....	—	3	7	9	21	23	21
1849.....	49	124	152	339	618	783	926

CASES AND DEATHS FROM CHOLERA THROUGHOUT ENGLAND AND WALES, BETWEEN THE 13TH JULY AND THE 6TH AUGUST.

THE following is the return of cases of cholera reported to the General Board of Health, from the 13th day of July to the 6th of August, 1849, both inclusive:—

	Attacks.	Deaths.
In London and vicinity, viz.:—		
Lambeth	1,160	484
Bermondsey	630	102
Southwark	316	169
Newington Butts	337	195
Camberwell	173	124
Whitechapel	166	52
Poplar	138	26
Stepney	94	35
Limehouse	51	15
St. George's-in-the-East	65	21
Shadwell	46	9
Wapping	37	13
Radcliff	20	6
Spitalfields	26	8
Holborn Union	91	34
St. Giles'	40	19
Rotherhithe	38	34
Deptford	98	22
Greenwich	104	38
Lewisham	25	19
Other localities in London	1,313	637
Total	4,968	2,062
In England and Wales, viz.:—		
Liverpool	1,970	694
Merthyr Tydfil	405	169
Dowlais	650	279
Glocester	47	24
Cardiff	59	38
Salisbury	81	78
Nantwich	126	69
Portsmouth	115	73
Portsea Island	443	259
Plymouth	484	164
Mevagissey	87	41
Bristol	176	97
Taibach	65	36
Aberavon	45	23
Cwmavon	29	11
Clifton Union	82	47
Brighton	43	27
Poole	23	6
Other towns in England and Wales	1,901	870
Totals	6,831	3,005
In Scotland, viz.:—		
Dundee	532	264
Other towns in Scotland	42	27
	574	291
General total	12,373	5,353

THE CHOLERA AT PLYMOUTH.

Plymouth, Aug. 4.—The deaths from cholera amount to 20 for the week just ended; the deaths for the previous week were 30, so that the mortality is on the decrease. The number of new cases reported with the 20 deaths is—cholera 36, choleraic diarrhœa 125; total, 159; which gives about one death to every nine cases, and proves that either the disease is very mild in its character, or the medical *employés* are very elaborate in making up their reports. The disease continues to be confined almost exclusively to the ill-clad, ill-fed, and unclean among the labouring classes. Its progress during the present visitation has marked fatally, but unerringly, those districts of the town where a deficiency of ventilation and drainage prevails. The total deaths from the commencement, on the 4th of July, to the present date, the 4th of August, amount only to 156 in a population of 40,000 souls.

At *Devonport* the cholera prevailed rather seriously in the early part of the week, during which 43 deaths occurred in a population of 35,000 souls. Nine of these deaths took place in the overcrowded workhouse, and 5 in George's Square, occupied by the 82d Regiment. The five fatal cases in the 82d were those of Sergeant Inglesfield, the wife of Sergeant Skelton, two privates, and a child; the greatest fatality was in an apart-

ment next a mess kitchen, theimperfect drain of which is under the room where the deaths occurred.

In *Stonehouse*, which has a population of about 10,000, there have been forty cases of cholera during the last month, and more than one-fourth of the deaths occurred among the Royal marines.

THE CHOLERA AT BRISTOL.

Bristol, August 6.—We are sorry again to have to record a great mortality in the infected district of Bedminster. At the Cholera Hospital provided by the committee there were six deaths yesterday, and six the day before. From the report of the Bedminster committee, it appears that there are at present under treatment—cholera, 4 cases; diarrhœa, 7; cramp, 1. In the parish of St. Philip and St. Jacob the scourge is on the decrease, there having been, since our last report, only two or three cases in Bread Street, and which, doubtless, have arisen in consequence of the nuisances already described. The report likewise, as far as regards the ancient city, is more favourable, the return for this day being—diarrhœa, 29; approaching cholera, 2; cholera, 3; deaths, 0. There have been two more cases from the Russian ship Pollux. The filthy state in which this vessel was found on examination is almost incredible, and many medical men who went on board declared that no inducement should tempt them to repeat the visit. By order, and under the superintendance of the Custom House authorities, the bedding, linen, &c., belonging to the vessel has been burnt. In the district of St. Paul the disease has almost disappeared. Only one case has as yet appeared at Clifton.

THE CHOLERA AT LEEDS.

THE pestilence which is proving so fatal in various districts of the United Kingdom and other parts of the world, is not increasing in malignity in this township. In the course of the last three weeks or a month there have been about 30 cases reported to the authorities, 14 or 15 of the cases terminating in death. The disease is chiefly confined to the locality of the Bank, an ill-sewered portion of the town towards its eastern extremity, and originally forming the northern bank of the river Aire, which still runs its course, and that too, perhaps, in its primeval channel; but the immediate banks of the river are covered with factories, and the higher ground at a little distance is thickly studded with dwellings. In this locality fever epidemics have generally been severe amongst the inhabitants. In Hunslet, one of the large out-townships of the borough of Leeds, the disease continues in a very malignant form. It broke out on Friday week, and up to yesterday (Tuesday) morning there had been 60 cases, 27 of which had proved fatal, and 10 of the deaths had occurred since Saturday. There had been several fatal cases in some of the neighbouring villages, and diarrhœa is very prevalent.

THE CHOLERA AT GLOUCESTER.

THIS town is now happily clear of the malignant pestilence which has for some months past infested the least cleanly part of this so-called "fair city." During the last three months the number of cases in the city and union was upwards of 200, of which 92 proved fatal. The visitation has had one beneficial effect, viz. that of causing a most thorough purification of that town.

THE GENERAL BOARD OF HEALTH, AND ITS MEASURES FOR THE PREVENTION OF CHOLERA.

THE new act for confirming certain provisional orders of the General Board of Health, and for other matters relative to the Public Health Act and the improvement of towns and populous places (12th and 13th of Victoria, cap. 94), will speedily be enforced. Provisional orders relating to Taunton, Worcester, Ware, Sheerness, Kendal, Durham, Leicester, Chatham, New Windsor, Carmarthen, Gloucester, Lancaster, Croydon, Uxbridge, and Coventry, are confirmed. Elections for Local Boards of Health are appointed to take place in the course of the present month. This act is to be incorporated with the Public Health Act, 1848, and to be called "The Public Health Supplemental Act, 1849."

In consequence of the severity of the visitation of the cholera in the metropolis, and in several parts of the country, the General Board of Health has been occupied in making additional provision of medical service. The cholera has been particularly severe at Neath. The mayor, a medical practitioner, had fallen a victim to it. Throughout Wales the visitation appears to be very severe. It is reported, that of a body of 40 men employed by the Metropolitan Commissioners of Sewers in cleansing in Bermondsey, 20 had been attacked with cholera, and two had died.

THE CHOLERA IN NEW YORK.

THE New York Tribune of the 25th ult., gives the following account of the cholera in that city. The deaths by cholera in 1832 numbered 3,508 out of 6,100 taken sick. This year, up to last Saturday night, 2,262 persons had died of that disorder. Our remarks, in both cases, include only the city and island of New York. Last week was the most fatal to human life of any within our recollection. Is there another instance on the whole records of city mortality in which

1,409 of all ages were called from among the living to their final account? On an average of 24 months in '47 and '48, the monthly deaths numbered 1,220; now we have had 1,409 in a week. The mortality by cholera during the first 46 days of its fitful career, this year, as stated in the *Tribune* of the 3d inst., from the city inspector's weekly reports, was 747, to Saturday, June 30, inclusive. The deaths from all causes during the four weeks then ending numbered 2,041, or 955 more than in the corresponding weeks of 1848. The mortality by cholera during the week ending the 7th inst. included 317 persons, and from all causes, 702; in the week ending the 14th, there died of cholera 484, diarrhœa 55, cholera infantum 64, all causes 991; and in the week ending last Saturday, 1,409 persons died, of whom 714 died of cholera, 102 of cholera infantum, 71 of dysentery, and 58 of convulsions. There were 474 Irish deaths in the week. The Board of Health reported the deaths by cholera in the city last week at 36, 26, 36, 40, 35, 55, and 37, total 281. The city inspector's report is 714; difference 443. Is this difference intentional? Can it be accidental? The Board of Health tells us of 281 deaths when its members had the means of ascertaining that there were nearly 714. Is such a course just towards this metropolis of commerce, and those at a distance who transact business with it? The board has reported 40 deaths daily by cholera, instead of 102, the real average. On inquiry, we learn that the physicians will not report daily to the board, but once a-week to the city inspector. Why, then, do the board present daily reports which they must know to be grossly incorrect? Better give the truth or be silent. The deaths some days have reached 150 or more. Adding 317, 484, and 714 to the 747 deaths to the end of June, we have 2,262 deaths by Asiatic cholera up to last Saturday; and during the last three weeks, from all causes, 3,102. During the four and a half weeks in July, 1847, the deaths were 1,876; in July, 1848, they numbered 1,497; this July they will probably exceed 4,000. The average number of deaths each week in these two years is about 305. The cholera, under its new name of "Asiatic," first appeared here in July 1, 1832, and disappeared October 27. Its three most fatal weeks were, that ending July 21, deaths 716; that ending the 28th, deaths 686, and the first week in August, deaths 383. After that the mortality tapered off gradually to 14 and 11 in the last two weeks, but returned in 1834, when 934 persons died. Reasoning from the above facts, may we not conclude that the worst of the cholera weather of 1849 will be over this week, and that its gradual decrease may be looked for?

The *New York Courier* of the same date, says—

"The cholera seems gradually extending itself both along the sea-coast and the interior, and within the past few days has developed itself on the lake shores. Nowhere as yet, however, has it proved so deadly as at St. Louis, at the junction of the Mississippi and Missouri rivers, although in this city it is assuming a more fatal type: the deaths for the week ending on Saturday, the 21st inst., were 1,400, of which rather more than one-half, viz., 714, or 102 daily, were by cholera. Among the deaths by cholera yesterday we regret to announce that of Mr. John L. Lawrence, at the time Controller of the city, and well known to the whole community from his long connexion with public affairs. He was Secretary of the Commission for the negotiation of a treaty of peace with Great Britain, which met at Ghent, and has since been member of the Assembly, and still more recently of the State Senate from this city. He was a man of high character, of fair abilities, and universally respected for his personal and social qualities."

At St. Louis the disease was diminishing. In the week ending Sunday, July 22, there were 229 deaths from cholera, and 136 from other diseases. Compared with the week ending the 15th, this shows a decline of 401 deaths from cholera, and 46 from other diseases. At St. Louis and Cincinnati, when the pestilence was at its worst, the young men there, or such of them as enjoyed good health, enrolled themselves in associations for the relief of the sick and destitute. In this way much good was done, and many lives were saved.

REPORT OF CHOLERAIC PATIENTS TREATED IN THE CIVIL HOSPITALS OF ST. PETERSBURGH, FROM THE FIRST INVASION OF THE CHOLERA IN JUNE, 1848, TO THE 1ST OF JULY, 1849.

DR. GRANVILLE has communicated the following table, obtained from official sources, to the *Times*:—

	Admitted.	Cured.	Died.	Remain.
St. Mary (Poor's Hospital	2065	1187	815	63
Oboukoff	2869	1237	1605	27
Kalinkine	611	254	348	9
Petropawlosky. . .	617	394	207	16
Mary Magdalen . .	379	205	168	6
Incurables	112	39	72	1
Enfans Trouvés . .	244	161	83	0
Maternity	46	30	15	1

(Signed) D'ARENDT.

THE CHOLERA IN CANADA.

According to the latest accounts the cholera was on the increase. Colonel Holmes, of the 23rd regiment, had died of the scourge.

The deaths in Quebec had been very numerous, in many cases amounting to 40 and 60 a-day. It is stated to be on the decrease hourly. The muriated tincture of iron is said to have been used with success.

SANITARY STATE OF MONTREAL.

On the whole, the city still continues comparatively healthy. Diarrhœas and dysenteries are frequent, and sporadic cholera has been prevalent. Several cases of cholera, presenting all the characteristics of the Asiatic variety, have been witnessed. We have heard of some fatal cases within the last fortnight, several of which have been seen; four of these occurred in the military hospitals—all fatal. The 71st regiment has been removed to St. Helen's Island, where, during the epidemic of 1832, they enjoyed such perfect immunity. The disease cannot be viewed, however, as yet, as strictly epidemic, but we, nevertheless, think that the inhabitants should at once adopt precautionary measures in respect to diet, clothing, ventilation, and cleanliness. Should it prevail epidemically, we scarcely believe it will be marked with the same malignity, or prove as general in its attacks, as in 1832-34. Much has been done in this city as regards drainage, &c., since those years, although yet a good deal more might be effected, which, if costing money, would save life.—*British Amer. Journal*, July.

THE CHOLERA IN HOLLAND.

By intelligence from Asterdam, dated August 4th, we learn that there were—fresh cases, 3; deaths, 4; recovered, 3; under treatment, 43. At *Haarlem*.—From the 26th of July to the 2d of August, 43 cases were reported, of which 26 proved fatal. Since the commencement of the disease, on the 31st of May to the 2d of August, 261 cases were reported, of which 151 proved fatal. At *Scheidam*.—Since the 27th of July to the 2d of August, 8 fresh cases occurred, 5 of which proved fatal. At *Dordrecht*.—Since the commencement of the disease, 174 cases had occurred, of which 102 proved fatal. At *Utrecht*.—36 fresh cases occurred on the 2d of August, of which 21 proved fatal. At *Zwolle* it has increased very much. 100 cases have occurred within the last day or two, 50 of which proved fatal. In Amsterdam alone, 2,253 cases have occurred, of which 1,445 have proved fatal.

QUEEN'S COLLEGE, BIRMINGHAM.

At a meeting of the Council, held August 5th, Mr. John Moore, M.R.C.S., was elected Resident Medical Tutor.

OBITUARY.

It is with regret we have to announce the death of Dr. John Reid, Professor of Anatomy and Medicine in the University of St. Andrews. This event took place on the 30th ult. The deceased, who was in his 41st year, had for some time suffered from cancerous disease of the tongue, for which an operation had been performed with only temporary relief to the patient. Dr. Reid was well known as an indefatigable writer on numerous anatomical and physiological subjects. He has contributed several excellent articles to Todd's Cyclopædia of Anatomy and Physiology. These and other papers were recently collected and published under the head of Physiological, Anatomical, and Pathological Researches. Dr. Reid was much respected by all who knew him.

On the 9th ult., at Madeira, in the 34th year of his age, Dr. Gilham.

Selections from Journals.

TOXICOLOGY.

A NOTICE OF SEVERAL CASES OF POISONING BY LEAD, WHICH LATELY OCCURRED AT CLAREMONT.*

Of thirty-eight inhabitants of Claremont, thirteen were attacked with symptoms of poisoning from lead—eleven men, and two women. Four of these cases occurred two months before the others. Six children in the household were exempt.

The first patient to whom Dr. De Mussy was called, had been suffering from colic, with icteric symptoms, for several days. This was the third attack within five weeks. Having been subject for some years past to intestinal derangements, the true nature of the attack was overlooked. The same symptoms occurring in a brother of the preceding patient, were attributed to "Liver complaint," contracted on the western coast of Africa. In a third case the symptoms were attributed to change of climate.

In a few days these patients were apparently convalescent, but still weak, and pale sallow complexions had replaced the icteric colour. The symptoms, however, returned in about ten days with increased severity. The pain became excruciating, the skin cold, the pulse small and frequent. Constipation most obstinate. Enemata were retained, the sphincter ani being firmly contracted, and resisting the strongest contractions of the abdominal muscles.

"In one case the sphincter vesicæ did not

* Abridged from a letter by Dr. De Mussy, published in the Dublin Quarterly Journal, May 1849.

permit the urine to pass for more than thirty-six hours, so much so that the bladder extended up to the umbilicus. At times the testes were retracted up to the inguinal canal, and occasioned most excruciating pain in the back, loins, scrotum, and perineum." In this case, also, the pylorus appeared to be affected with spasm, and would permit of nothing to pass, all food being rejected by the mouth.

The nervous system in all was in a state of painful irritability, producing restlessness, vigilance, hurried respiration, palpitations, despondency, and severe hysterical symptoms. The surface of the body was affected with an excessive hyperæsthesia. This state of exalted sensibility of the surface was the only symptom of saturnine poisoning in two of the cases; one that of a female, the other in a young man of twenty-four years of age, and of a good constitution.

De Mussy supposes the transient jaundice, which he attributes to have arisen from a spasm of the gall ducts. When the physician's attention was directed to the suspicion of saturnine poisoning, he examined the state of the gums, and found the slate-coloured line in many cases. It existed in half of the whole number attacked. In one the mouth was strewed with spots of the same colour: the diagnosis was hereby cleared.

Treatment by purgatives either totally failed, or, if their action was obtained, it was followed by severe aggravation rather than by any relief of the patient's suffering. The only instances in which aperients effected any benefit were those in which they were given at the onset of the attack, and they then cut short the disease. No febrile symptoms attended these cases throughout. At times perspiration procured by dry friction or hot baths was attended with a few hours' abatement of suffering. New symptoms began to appear—emaciation, anæmia, vertigo, convulsions, impaired vision, incipient paralysis. These were somewhat alleviated by an abandonment of purgatives, and the employment of narcotics and sedatives. The exhibition of iron and sulphur in combination was now commenced, accompanied by the use of sulphur baths. The chemical action of sulphur was shown in the appearance of black spots on different parts of the skin, and on the nails. The former could be washed off. Hence it was evident that the lead was eliminated in part by the skin. It was discovered also in the urine. The result of this mode of treatment was most satisfactory. In a few weeks the patients had removed to Richmond, and recovered perfectly.

"The morbid cause has acted in these cases, as it often does, with caprice, and according to individual dispositions which defy every reasoning. The malady has shown no respect for condition, and attacked indiscriminately servants, aides-de-camp, and princes, and did not spare even the most august and pious of victims."

The poison was introduced in the water with which the palace is supplied. The spring that furnishes it issues from a sand-bed, at about two miles distance. It was chosen thirty years ago for its uncommon purity, and has been used since that period without any bad result. Mr. Phillips's analysis of this water gives only 5·7 grains of solid and saline matters in one gallon. These are—common salt, 2·7; sulphate of lime, silica, oxide of iron, and vegetable matter, 3·0.

The sudden occurrence of such alarming symptoms is attributed to the recent introduction of an iron cylindrical tank in connection with the lead piping, through which for years the water had been conveyed. The explanation which suggested itself was that a galvanic action resulted from the contact of the two metals with the water. But this was received with some hesitation, as the water in the tank contained no lead; that in the pipes a certain portion; that in the leaden cistern, from which the water was last taken, more. Professor Hoffman found that this last contained one grain of *metallic lead* in each gallon. χ

TOXICOLOGY.

CASE OF POISONING BY THE BERRIES OF THE DAPHNE MEZEREON. BY DR. SCHWEBES, OF KÖNIGSBERG.

Cases of poisoning by the berries of mezereon are by no means frequent, notwithstanding their resemblance to the common red currant, and the frequency with which the plant is cultivated as an ornamental shrub in gardens. Experiments on animals have proved that these berries contain a very active poison. Mitscherlich killed a dog with twenty grains of the powder, and Linnæus saw a wolf killed by six of the berries. For these reasons, Dr. Schwebes deems the following case of sufficient interest for publication:—

Two children, one a boy of four years of age, the other a girl two years old, rambled unnoticed into a neighbour's garden. On returning home, the boy complained of a sense of burning in the mouth, followed by nausea. He, of his own accord, attributed his illness to his having eaten some red berries which he had found on a shrub in the garden. Medical advice was immediately procured. Before Dr. Schwebes arrived, milk had been given to him, and he had vomited freely, the vomited matters containing a quantity of the berries of the

Daphne mezereon, some masticated and some entire. The child continued to complain of dryness and heat in the mouth, and of burning pain in the stomach. A reddish mucus was voided from the throat and mouth, but no abrasion or blister could be discovered on the mucous membrane. The inclination to vomit continued, but nothing was ejected. The pulse was regular.

The girl, who, according to her brother's statement, had eaten the berries as well as himself, was playing about the room, without manifesting any signs of indisposition.

An emetic was given to each of the children: the boy vomited the remainder of the milk he had drunk, mixed with more berries. The girl vomited after a longer interval, and ejected eight entire berries. On visiting the children in an hour afterwards, Dr. Schwebes found both in a state of complete narcotism, with coma: there were convulsive movements of the eyes and upper extremities occurring at short intervals; the pupils were contracted, and scarcely sensible to the stimulus of light.

It thus appears that the poisonous action of mezereon depends upon irritation of the brain and upper part or the spinal cord. The convulsions must be attributed to irritation of the intestinal canal through the sympathetic nerve, as in helminthiasis.

By warm baths, cold affusion to the head, sinapisms to the extremities, and other appropriate treatment, the coma and convulsions disappeared, and on the following day both children had perfectly recovered.

By way of experiment, Dr. Schwebes gave six berries off the same shrub to a rabbit, which masticated and swallowed them: three hours afterwards the animal ate food that was put before it, and appeared none the worse for the poison which it had swallowed.—*Casper's Wochenschrift*, Aug. 26, 1848. χ

PATHOLOGICAL CHEMISTRY.

A NEW TEST FOR ALBUMEN. BY M. E. MILLON.

THE highly acid liquid obtained by dissolving mercury in its own weight of nitric acid, constitutes an extremely delicate reagent for albumen and albuminous compounds.

This mercurial solution communicates to albuminous substances an intensely red colour, by means of which a very minute proportion of albumen in water may be detected.

To give an idea of the delicacy of this reagent, and to show its applicability to the study of vegetable organization, it may be stated that starch and gum acquire by its action a very distinct rose tint. Urine almost always becomes coloured of a rose tint after the nitro-mercurial solution has been mixed with it, and the mixture has been warmed. The albumen of the blood, that of serous effusions, of plants and fibrine, casein, gluten, legumin, silk, wool, feathers, horn, epidermis, gelatin, chondrin, and protein, are equally affected.

Protein rendered soluble by the prolonged action of an alkaline ley, or by sulphuric acid, is also coloured red, but no precipitate is thrown down.

This mercurial solution is most readily prepared by dissolving mercury in its weight of nitric acid (1.4) in the cold. When reaction has ceased, a gentle heat may be applied to facilitate the solution of metal. When the solution is complete, the liquid is to be diluted with two parts of distilled water by measure. After some hours the liquid is to be decanted from any mixed crystals of nitrite and nitrate of mercury, which may subside.

This reagent acts on albuminous substances at low temperatures, but not so completely as at a temperature of from 140° to 150° Fah. It is even preferable to continue the application of heat to the boiling point. The prolonged action of the reagent in excess does not alter the red matter, as has been ascertained by the contact of albumen with the nitro-mercurial liquid for upwards of one year.

According to M. Millon, this singular property of giving a pink or red colour to albuminous substances resides neither in the nitrate nor in the nitrite of mercury, nor in their mixture. It is necessary that there should be hyponitrous acid in the solution which contains the two salts. The pure pernitrate of mercury, saturated with hyponitrous acid, forms a delicate reagent, but inferior to that of a saturated solution of the mixed salts.

One or two drops of the test liquid are sufficient for the detection of albumen. Albumen has thus been detected in the liquid of cholera, when nitric acid and heat have failed to demonstrate its presence.—*Comptes Rendus*, Janvier 1849. χ

A CASE OF INTUSSUSCEPTION. COMMUNICATED BY WILMER WORTHINGTON, M.D., OF WESTCHESTER, PENN.

THE following case presents a feature so unusual, that I have thought its publication might be acceptable to the profession. Should you be of this opinion, you will please give it a place in your valuable journal.

A male child aged three years and four months, of rather delicate constitution, was passed over by a horse in the street, near two years ago, and very much contused upon the back, and in the left iliac region. From that period up to the first of November last,

he had frequently complained of pain in the abdomen in the immediate vicinity of the injury, when the pain became greatly aggravated, accompanied with occasional vomitings. For these symptoms the mother had administered large doses of laudanum, without any apparent benefit. Some time in the latter part of December or the beginning of January my attention was called to the child. Supposing worms to be the principal cause of his sufferings, I directed medicines for their removal, and these were varied according to circumstances, without any material change in the symptoms, or relief to the little sufferer. About six weeks previous to his death, a diarrhœa came on with discharges of bloody mucus. The pain was still severe in the same region as formerly, and great tenesmus accompanied his efforts to evacuate the bowels. Two large lumbricoid worms were now passed, one of which was coiled into a knot. These were the only worms which made their appearance during his illness. Prolapsus ani took place about this time, which was mentioned to me by the mother: but having directed her to replace it immediately after each evacuation, I never saw it in a collapsed state. The child had greatly emaciated, and its sufferings were intense. I placed it upon the use of hyd. submur. and opium, which I continued for some time, and finally exchanged them for a solution of sulph. morph., which was continued *pro re natâ* to the time of the child's death, which took place on the tenth of July. The warm bath, fomentations, with a variety of other treatment, had been used without benefit.

Twenty-six hours after death I made a post-mortem examination. The omentum majus was found diseased, the result of inflammation. The stomach, duodenum, jejunum, and part of the ileum, were but little affected; a slight shade here and there of inflammation appeared. The lower part of the ileum, cœcum, colon, and rectum, were inflamed, particularly the cœcum and colon; the former approaching a state of gangrene. The cæcum was inverted into the colon, passing through its whole length and lodging in the rectum near the anus; carrying with it the lower part of the ileum, and a large portion of the inverted colon. The cœcum, all the colon except about ten or twelve inches of its lower part, and a considerable part of the ileum, had passed into the lower portion of the colon and the rectum, making altogether more than two feet of inverted bowel.

The liver, spleen, pancreas, kidney, and bladder, were all healthy. The stomach and bowels were entirely empty. No worms were found. No food had been taken for about two weeks.

From the appearances which this examination presented, I came to the conclusion that the cæcum must have passed through the sphincter of the anus during the child's efforts to evacuate the bowels. With a view to ascertain this fact, I have since inquired of the mother what appearances the prolapsus presented, and from the description given, I have no doubt of the correctness of this opinion. Indeed, from the position of the parts as revealed upon dissection, I cannot conceive how it could be otherwise. The women who officiated after its death, replaced the protruding bowel, and they corroborate the mother in their statement of its unusual appearance.—*American Journal of the Medical Sciences.*

ON THE EMPLOYMENT OF ASSACOU IN ELEPHANTIASIS.

A MEMOIR on this disease, lepra tuberculosa, having been transmitted by the French Consul at Para, Brazil, to the Minister of Public Instruction in Paris, and by him submitted to the Academy of Medicine, has given occasion for a report on the disease and its treatment by Messrs. Merat and Gibert.

Among the remedies employed in the Brazils, is one recently made known: it is derived from an indigenous tree, the *Assacou*, the Hura Brasiliensis of Martius, *nat. ord. Euphorbiaceæ*. Its sap, or a decoction of the bark, possesses poisonous properties in large doses, while in smaller doses its action is emetic and sudorific.

Martius, in his "Systema materiæ medicæ vegetabilis Brasiliensis," regards it as an anthelmintic. The beneficial effect of this remedy was strikingly manifested in a case at Santa Maria de Belem. A man, suffering under lepra, had three years previously fled from the central provinces, in order to escape the usual confinement adopted towards lepers. He was still afflicted with the disease, and on the assacou juice being proposed to him as a remedy, knowing its poisonous character, he gladly availed himself thereof, rather with the hope of putting an end to his existence than of being cured of his leprosy. The effects were, however, so favourable that he not only no longer hesitated to return to his native village, but was eager to do so in order that he might impart the secret to others. The case was investigated by a medical commission, and experiments were made upon four other cases with considerable success; although it must be borne in mind that these apparent cures require the confirmation of time, as this disease is peculiarly prone to return, and a subsequent fatal termination is by no means unfrequent.

The mode of exhibition is by pills made of the extract; of the juice in doses of a few

drops ; and in baths made by boiling the bark. The decoction is made by half an ounce of bark to a pound of water, adding twelve drops of the juice of the tree. The bark of the tree contains the most active principles. The decoction applied to the skin produces an erysipelatous inflammation, and a pustular eruption. The natives employ the juice as a poison : and to this no antidote is known.

Messrs. Merat and Gibert conclude their report to the minister, by stating—1st, that assacou is a potent and poisonous remedy, requiring to be given with great caution ; 2nd, that the reports of the Brazilian physicians regarding its efficacy in lepra, require confirmation, since they themselves admit that their observations have not been sufficiently numerous; 3rd, that if confirmed, the importation of the remedy is desirable.—*Journal de Pharmacie et de Chimie.* χ

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Report of the Directors of the Montrose Lunatic Asylum, for the year ending June 1, 1849.

Oratio ex Harveii Instituto in Ædibus Collegii Regalis Medicorum habita pridie Calend. Julii A.D. 1849. A Johanne Carr Badeley, M.D. Cantab.

Wochenschrift für die gesammte Heilkunde, von Dr. Casper. Nos. 25, 26, and 27 ; 23d June to 7th July.

Manuals of the Duties of Poor-Law Medical Officers. By W. G. Lumley, Esq. Barrister-at-Law.

Quarterly Return of Marriages, Births, and Deaths, registered in England. No. 2, 1849.

Notes on Spa and its Chalybeate Springs. By Thomas Cutler, M.D.

The New York Journal of Medicine. May, 1849.

First Principles of Medicine. By Archibald Billing, M.D. 5th Edition.

Nineteenth Annual Report of the Belfast District Asylum, 1849.

Comptes Rendus. Nos. 23 and 24; Juillet 16 et 23.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·79
„ „ „ Thermometer[a] ..... 59·5
Self-registering do.[b] ....Max. 94· Min. 44·4

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0.39—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 2.1° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Aug. 4.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	703	Males....	993	Males....	513
Females..	690	Females..	974	Females..	495
	1393		1967		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1967	1008
Specified Causes	1963	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	1308	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	41	36
3. Brain, Spinal Marrow, Nerves, and Senses	110	115
4. Heart and Bloodvessels.....	50	38
5. Lungs and organs of Respiration	85	81
6. Stomach, Liver, &c.	64	68
7. Diseases of the Kidneys, &c.	11	8
8. Childbirth, Diseases of Uterus, &c.	3	11
9. Rheumatism, Diseases of Bones, Joints, &c.	5	6
10. Skin.....	1	1
11. Old Age	37	32
12. Sudden Deaths.....	12	8
13. Violence, Privation, Cold, &c....	23	36

The following is a selection of the numbers of Deaths from the most important special causes :

Small-pox.....	11	Convulsions.....	37
Measles.....	21	Bronchitis	30
Scarlatina	44	Pneumonia	44
Hooping-cough	33	Phthisis	111
Diarrhœa.....	179	Lungs	5
Cholera.....	926	Teething	12
Typhus.....	39	Stomach	4
Dropsy	20	Liver.....	10
Hydrocephalus	26		
Apoplexy	26	Childbirth	1
Paralysis	15	Uterus	0

REMARKS.—The total number of deaths was 959 above the weekly summer average.

NOTICES TO CORRESPONDENTS.

Dr. Paterson's letter has been received. A communication will be forwarded.

Dr. Griffiths's paper will have early insertion.

Mr. Edwin Carr.—Extracts from the report will be inserted in the next number.

Mr. Lee.—We are obliged by the pamphlet; but we look upon Adolphe, Alexis, as well as the whole tribe of *clairvoyans* as impostors. We refer our correspondent to Dr. Forbes's "Trials," MEDICAL GAZETTE, Vol. I. N.S. page 495. In all cases where there is no imposition, and there has been any positive success, the facts can be accounted for on ordinary principles without the aid of Mesmerism. See page 245 of this number.

The Bristol Mesmerists.—Mr. Janson has written to complain, that in our censures on his proceedings at the Bristol Institute, we charged him with blasphemy. We can only say that we quoted (at page 170) the paragraph from Mr. Janson's speech on which the charge was based. We will leave our readers to judge whether the imputation was or was not fairly justified by the words of the quotation.—Dr. Storer has also written to us on the subject, but as he was not personally referred to in the matter, we decline to take any notice of his communication.

Dr. Routh.—We shall be glad to receive the reports for publication as soon as convenient.

Dr. C. H. Jones.—The paper will be inserted, and a proof sent.

The papers of Mr. Clapp and Mr. George will appear next week, as well as the letters of Mr. Slipper and M.D.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXII.

DISEASES OF THE VEINS.—*Continued.*

Accidental admission of air into veins—not unfrequent in surgical operations—effect of admission of air into a vein—result of post-mortem examination in such cases—question as to proximate cause of death—circumstances that may lead to the accident—indications of air having obtained ingress to a vein—cases—different opinions as to cause of death—treatment—necessity for great caution in performing operations in such localities as to render the admission of air probable if a vein be wounded.

Accidental admission of air into veins.

This accident has now frequently fallen under the observation of surgeons, and has in consequence of the urgency and fearful nature of its symptoms attracted such close attention and investigation, that a considerable amount of knowledge has been accumulated respecting it. Experiments upon the lower animals, added to close observance of the symptoms in cases in which, in the human subject, air has been accidentally admitted into the veins, prove beyond doubt that death may be, and has often been produced by this casualty, during the progress of surgical operations, and the indications and symptoms attendant upon this occurrence have been so clearly pointed out by many writers, that there can be but little difficulty in distinguishing them under any ordinary circumstances. The fact has long been known, that air forcibly driven into the veins of an animal is capable of producing a degree of interruption to the function of circulation, sufficient, when the air is in considerable quantity, to cause instantaneous death, and when that quantity is lessened, to produce symptoms of alarming character, and frequently to give rise to secondary affections of important organs, which in general prove fatal after the lapse of a longer or shorter period according to circumstances.

When an examination is made after death of an animal which has died from the admission of air into the veins, it is said that the right cavities of the heart, particularly the right auricle, are found distended by air mixed with frothy blood. Air may also be traced in other parts of the venous system, especially in the larger veins approaching the heart, and in the veins of the abdomen: indeed, it is stated by Dr. Cormack that in one of his experiments "air was found in every visible vein over the whole body." The presence of air could, however, be only proved in those cases in which death supervened rapidly upon its introduction; for, where the animal lived for any length of time after the experiment, not the least trace of air could be met with in the heart or veins. The question that arises is, then, what is the proximate cause of death when air is introduced into the circulating system. This is a question which I shall presently discuss.

When air has entered a vein spontaneously—that is, from the influence of the action of the heart alone—the accident has only occurred in veins placed so near to that organ that the blood circulating through them receives an alternate impulse and retraction from its diastole and systole; and it does not appear that air can find entrance when the puncture is far removed from the point at which the venous pulse can be distinguished; but if the puncture be made where the venous pulse can be felt, air is likely to gain admission. There are, however, circumstances which may cause the introduction of air into veins in which the venous flux and the reflux cannot be observed in the normal condition. Thus, any circumstances which would tend to keep the vein in a patent state, so that its parietes could not collapse upon themselves, may be a cause of the extension of the influence of the heart's action, and the consequent admission of air. The canular condition of a vein may be preserved in consequence either of disease in its coats by which they may have become thickened and hypertrophied, and thus rendered incapable of collapsing, or by the adhesion of the vein to surrounding tissue, or the canular form may be temporarily maintained by the action of the heart causing the reflux of the venous blood at the moment of inspiration. During surgical operations it is also probable that a similar state of patency may be produced in the vessel by tension, as during the removal of a tumor; or, lastly, it may arise from the action of the muscles of the part preserving the vein, when intimately united to it in a state of contant tension, and preventing the approximation of the parietes when they are cut through.

These considerations show us how much caution ought to be observed by the surgeon in operations about the neck and subclavian region, as the least puncture of a vein re-

maining open from either of the causes mentioned, would doubtless lead to the admission of air, and the train of symptoms consequent upon that accident.

When air has obtained admission into the veins, it is indicated by a peculiar gurgling noise, happily termed by the French "glou glou." This sound is heard only at the opening in the vein, or at the point where the air gains entrance. In the region of the chest and heart a sound of a different character is heard, a kind of bruit or churning, synchronous with the action of the heart. The immediate symptoms of the admission of air are, impeded respiration, loss of strength, and interruption to the circulation of the blood. If a large quantity of air be admitted, the symptoms are greatly aggravated: the circulation seems to be suddenly arrested; the sufferer utters loud cries; the prostration of strength is excessive; there are strong tetanic symptoms with opisthotonos; the urine and fæces are expelled involuntarily, and death very shortly supervenes; indeed, the fatal termination is said to have occurred in some cases instantaneously. The peculiar sound produced by the entrance of air into a vein, and the symptoms consequent upon that accident, are of a character calculated to produce a vivid impression upon the minds of those who witness them. It has once happened to me to do so in a case of my own.

A female, 19 years of age, was admitted into Guy's Hopital, May 17, 1843, with malignant disease of the humerus. Amputation of the shoulder-joint was determined on, and the 23rd of May was fixed as the day of operation. The arm was quickly removed with very little loss of blood, the patient bearing the operation with great fortitude: the subclavian artery was secured, and I was proceeding to remove an enlarged gland from the axilla: while dissecting the gland away from its cellular attachments, I distinctly heard a peculiar gurgling noise; at the same instant the patient uttered a shrill cry, and suddenly fell into a state of collapse, threatening immediate death; the countenance was deadly pale; the pupils fixed and insensible to light; the pulse quick, small, and fluttering; the respiration irregular, and attended occasionally by a deep sigh. The patient was placed in the horizontal position, and various stimulants administered, but an hour elapsed before she could be removed from the operating theatre; when placed in bed she passed her urine and fæces involuntarily. When reaction was coming on she uttered a continued whining cry, and kept constantly moving the right leg, but she seemed insensible to feeling, and remained in other respects quite motionless. As sensation gradually returned, she complained of pain running up the right side of the head and neck, and for several days she remained with her eyes closed. On the 25th day after the accident, she was able to leave her bed, but she complained of great weakness and want of power in the left leg. On the 3rd of July she left the hospital without any unfavourable symptoms remaining, with the exception of a slight dragging of the left leg.

The following case occurred to Dr. Willis, of Barnes:—On the 25th of March, 1848, Dr. Willis performed the operation of putting a seton into the neck of a man suffering from chronic laryngitis: the seton needle was inserted about two and a half inches above the superior edge of the sternum: at the moment of its entrance, Dr. Willis heard a peculiar hissing sound, so that he thought he had opened a subcutaneous abscess communicating with the windpipe, a glance at the face of the patient told, however, of a more serious accident—the sound was produced by the entrance of air into a small vein that had been punctured in the operation. The man was deadly pale—he fainted, then became rigid and convulsed: Dr. Willis immediately compressed the orifice, to prevent the ingress of more air, and sent off to Putney for Dr. Cormack: upon consultation it was decided on to try the effect of bleeding from the arm; the pulse, which was almost imperceptible, then became good, and the patient appeared to be in many respects relieved. Mr. Squire was now sent for; he concurred in the treatment that had been adopted, and suggested the application of warm applications to the feet, and the administration of a little wine: the patient did not, however, rally after this time, but continued in the same state until four o'clock in the afternoon, when he died.

After death the body was examined: it was found that the jugular veins and the large vessels of the neck were uninjured; but the right auricle and pulmonary artery were distended with frothy blood, and the lungs were emphysematous.

A young lady at Camberwell, about 19 years of age, had a tumor in the neck; she was placed under the care of Sir Benjamin Brodie, and he determined upon its removal: after commencing the operation he found that the internal jugular vein passed directly through the abnormal mass, and that it would be impossible to remove the latter without wounding the vein. He therefore placed a ligature upon the vein, above and below the points where his incisions were to be made in extirpating the tumor. In separating the tumor from its attachment to the surrounding structures, a small opening was accidentally made in the vein, unfortunately a little below the proximal ligature: a loud whizzing sound was immediately

heard; the patient became suddenly insensible, her face was pallid, and there were present all the symptoms described as attendant upon the entrance of air into a vein: indeed, in this case the symptoms at the time were so urgent, that at one moment it was thought that the patient was dead; but after the persevering use of stimuli, such as dashing cold water on the head and face, application of ammonia to the nostrils, and its administration internally, she began to show signs of returning animation, and, what is very remarkable, after a short time recovered without suffering from any of the distressing and protracted symptoms generally attendant upon this accident.

There can be no doubt that in this case the effects described arose from air obtaining ingress to the vein, but the quantity was only sufficient to cause immediate functional disturbance, and not to produce that prolonged interference with the circulation which appears to be the cause of death when a considerable quantity of air gains admission to a vein.

Mr. Skey once had a case in which, although he did not observe at the time the physical indications that air had entered the vein, there could be but little doubt of the fact from the symptoms that accrued. It happened in the operation for wry neck, and in one of the last incisions a large vein was opened behind the clavicle, probably the transversalis colli. One of the most prominent symptoms was a peculiar heat of skin and unusually rapid pulse; the patient died four or five days after the operation. Although this cannot be quoted as an unequivocal case of air in a vein, still the circumstances favour that view; and it would appear that although the air did not enter in sufficient quantity to produce immediate death, it was sufficient to interfere with the pulmonary circulation, a secondary disease, and to cause death in four or five days.

Experience in such cases has proved that when air obtains admission into a vein, the severity of the symptoms depends upon the quantity of air admitted; this is of course influenced by the state of the heart at the moment the puncture is made in the vessel, by the proximity of the wounded vessel to the heart, by its size, the character of the wound, and upon the condition of the vessel itself, as to whether it be permanently canalised. The period at which death supervenes after the admission of the air, depends not only upon the quantity of air admitted into the vein, but also upon the size and strength of the patient, and it seems to occur, as would indeed *a priori* be expected, more rapidly when the subject has been from any cause previously debilitated.

As to what really constitutes the proximate cause of death when air is admitted into a vein, great diversity of opinion exists. This is, however, a question of high importance, not merely with regard to physiological inquiry, but in relation to the treatment to be employed in case of this unfortunate accident occurring: by some authors it has been supposed that death is caused by over distension of the right cavities of the heart; by others, that it arises from the carbonic acid, formed by the action of the air upon venous blood, exercising a deleterious influence as it passes into circulation; by a third class, that owing to the presence of the air the blood is rendered incapable of passing into the capillaries of the lungs.

It appears to me that death may take place in consequence of excessive distension of the right auricle when air is forcibly injected into a vein, or when, in a surgical operation, owing to a combination of circumstances, a large quantity of air suddenly gains admission to the heart: the right auricle would then be incapable of contracting upon the air, perhaps from that fluid not furnishing the internal stimulus to the muscular fibres of the heart: immediate death would then be inevitable, as the action of the heart itself would be suddenly and completely arrested. In such a case death would be instantaneous; but when the quantity of air admitted into the vein is less it becomes mixed with the blood, and then the circulation is only more or less impeded—clogged, as it were, with the presence of the foreign matter. As death does not here supervene with such great rapidity, time is obtained for the employment of remedial treatment: in some cases, as I have already shown, this may be sufficient to restore the patient—in others the period of dissolution is only postponed. The supposition that when air enters a vein death is caused by the poisonous influence of carbonic acid generated within the venous canal by the reaction of the oxygen of the air upon the carbon of the blood, is, I think, unsupported by any evidence that can be drawn from the phenomena symtomatic of such an accident: I believe, indeed, that where the quantity of air mixed with the blood is not sufficient to entirely prevent the contraction of the auricle, but passes into the circulation, and the blood is propelled in a frothy state through the pulmonary artery to the capillaries of the lungs, the admixture of air with the blood seems to present a physical impediment to the passage of the blood into the capillaries—the function of respiration is interrupted, and death ensues in consequence of the blood not undergoing those changes necessary to the restoration of its vital properties. It has been proved that the presence of air in a fluid materially impedes its

circulation through capillary tubes; and some experiments upon this subject are detailed in an interesting paper upon the "Admission of Air into Veins," read by Mr. Erichsen at the thirteenth meeting of the Bristol Association.

An emphysematous condition of the lung has very frequently been found as a result of the admixture of air with the blood in the pulmonary artery. May not this distension of the air-cells of the lungs be produced by the influx of the air in the act of inspiration meeting with no resistance from the presence of blood in the pulmonary capillaries, so that the act of inspiration itself is sufficient to produce abnormal distension, if not rupture of the auricle?

The same physical cause appears to destroy life when the circulation of the blood in the capillaries of the lungs is interrupted by the admission of a small quantity of air; as when, by the ingress of a larger quantity, the auricle becomes at once so much distended as to be incapable of fulfilling its natural function.

The rapid occurrence of death in this accident is not easily understood, when we compare it with death by common asphyxia, unless we attribute it to the tetanic contraction of the muscles causing sudden annihilation of the respiratory action; for in tetanus it is not uncommon to meet with cases of instantaneous death accruing from the spasmodic contraction of the glottis.

The experience of surgeons with respect to the treatment of cases in which air has unfortunately obtained ingress to a vein, has not yet been sufficiently extensive to have thrown much light upon the subject. Compression of the thorax, and the abstraction of the air from the veins by a syringe, are the means often put in practice, and in cases where the symptoms continue urgent, it has also been recommended to open the temporal artery and right external jugular vein, for the purpose of relieving the distended cavities of the heart on that side. But when air has once obtained entrance, neither compression of the chest, or any attempt to withdraw it from the veins by exhaustion, can, in my opinion, prove of the least advantage; indeed, either of these methods of treatment may in itself hasten the death of the patient. Powerful compression of the chest can scarcely fail to produce an ill effect by impeding the respiration, which is already weakened, thus diminishing even the small quantity of blood which may otherwise obtain its proper degree of oxidation in the lungs. The introduction of a syringe seems to me both useless and objectionable: useless, because, even if it were introduced, I do not believe that the air could be withdrawn by its agency; and objectionable for two reasons—first, if the wounded vein could be found it would be almost impossible to introduce a tube without allowing a further quantity of air to rush in, which in itself may be sufficient to cause immediate death; and secondly, the introduction of any foreign body into a vein would certainly produce phlebitis, a disease almost as dangerous as the one with which the surgeon already has to cope. Compression of the chest by a firm bandage before the operation is a precaution that I think may be advantageously employed prophylactically; for if a vein were accidentally opened at the moment of a deep inspiration, the entrance of the air would be promoted, owing both to the patent condition of the vessel at the time, and the force of the refluent current, which conveys the blood into the right auricle. Pressure on the parietes of the chest prevents deep inspiration, and would therefore, if it did not entirely prevent the admission of air, certainly limit the quantity that could be introduced.

Prevention must be the great object with the surgeon in reference to this accident, and the operator ought to exercise extreme caution in his dissections in all operations in the vicinity of the heart; and in cases where, from the nature of the operation, there is more than usual danger of wounding a vein, an assistant should compress the endangered vein on the proximal side of the point at which the incisions are made into the integuments, so that, should it be wounded, the air would not be able to enter the vessel, which may be ultimately tied so as to remove the chance of further danger.

I do not perceive that much advantage can be derived from bleeding in a case where air has entered a vein; for if this be done with the object of removing the air from the auricle, phlebotomy must be performed on a vein near the heart, and under the influence of the diastole and systole of that organ there would then be danger of a fresh quantity of air gaining admission, and so the danger would be increased rather than diminished. In addition to this, the loss of blood would diminish the power of the heart to propel the blood through the pulmonary capillaries, and so maintain the very condition which is generally looked upon as the cause of death in this accident. The latter objection is also equally applicable to arteriotomy; for if the mixture of blood and air cannot pass through the lungs, arterial blood cannot be conveyed to the left side of the heart, and therefore the opening of an artery could be only productive of mischief by depriving the brain of the small quantity of arterial blood that could, under the existing circumstances, be conveyed to it. If,

unfortunately, air should gain admission to a vein in a surgical operation, or from any other cause, the first thing to be done is to compress the wounded vein, to place the patient in the recumbent position, dash cold water in his face, support respiration by artificial means, and to apply warmth and stimuli—such as sinapisms, &c.— to the surface of the body, hold ammonia to the nose, and give it internally mixed with wine, if the patient be capable of swallowing. If the quantity of air admitted to the heart be sufficient to maintain the distension of the right auricle, I believe death will be instantaneous. If the quantity be not so great, the heart may be still capable of propelling it through the pulmonic capillaries: the effect would then be less rapid, but still would doubtless prove fatal. If the quantity of air admitted be still less, the vital power may be sustained until the capillaries had sent the blood through the lungs to the left side of the heart, under which circumstances the patient may recover.

SQUINTING A DISQUALIFICATION FOR MILITARY SERVICE.

"Does strabismus disqualify for military service?" Our reply is in the affirmative, supported by usage and analogy, and backed by authority.

Marshall, in his work on Enlistment, mentions it as a sufficient ground for rejection of a candidate for military employment in H. M.'s service.

Analogy sanctions our opinion. There would be no hesitation in rejecting a monocular candidate for employment; a squinting man is in reality monoculous, he uses but one eye though possessed of two, and as such is unfit for a soldier. We are supported by general usage. Military men are very tenacious of the appearance of their corps; the admission of squinting men into the ranks would destroy that uniformity on which they pride themselves; one or two such men would mar the martial appearance of a whole line.

Then, how would they be able to obey the several commands "eyes front," "eyes right," "eyes left?" It is evident it would be no easy matter to ascertain if they obeyed these visional commands. It may be urged that strabismus can now be rectified by a simple and easy operation, and so can hydrocele, but we do not admit men into the service to subject them to preparatory operations to fit them for public employ, as long as there is no want of marvellous proper men ready to fill the ranks without undergoing any further chirurgical treatment than a mere personal inspection by the regimental surgeon.—*India Medical Journal.*

Original Communications.

ON THE

GANGLIA AND NERVES OF THE HEART.

By Robert Lee, M.D. F.R.S.
Fellow of the Royal College of Physicians, London.*

[Received May 7—Read June 7, 1849.]

Haller, Wrisburgh, Soemmering, and other eminent anatomists prior to Scarpa, have affirmed that no nerves are distributed to the muscular substance of the heart, and that its contractions do not depend upon nervous influence.

B. J. Behrends, a pupil of Soemmering, in 1792 published a memoir, entitled "Dissertatio qua demonstratur Cor Nervis carere," in which it is admitted that nerves accompany the coronary arteries, and it is distinctly asserted that the muscular structure is entirely destitute of nerves.†

The elaborate and splendid work of Scarpa, "Tabulæ Neurologicæ," fol. 1794, has for its chief object the refutation of these erroneous views; but before referring to the discoveries of that great authority, I may proceed to state that in the magnificent plates of Mr. Swan, only a few small branches of nerves have been figured which accompany the trunks of the coronary arteries, and the muscular substance of the heart is represented as almost completely destitute of nerves.

M. Chassaignac, who translated in 1838 Mr. Swan's "Demonstration of the Nerves of the Human Body," has repeatedly denied, in the most positive manner, that any nerves except those which accompany the coronary arteries have yet been demonstrated in the heart. "Anatomie n'a constaté jusqu'à présent dans le cœur que des nerfs artériels,"—"l'existence de filets nerveux indépendantes des vaisseaux propres au tissu charnu est encore à démontrer." p. 23.

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* From the Philosophical Transactions.

† Ac primo quidem nervorum cordis examini scrupulosius intendens, tum observando, tum analogice concludendo didici *nullos* omnino nervos ne surculum quidem in ipsam cordis carnem dispergi.

Scarpa, however, had clearly delineated and described such nerves, viz. running on the heart independently of, and distinct from the coronary arteries. In the work above cited, he has given five views of the nerves of the human heart, in some of which, *e. g.* Tab. IV., upwards of twenty filaments may be counted on the same transverse line near the base of the heart, together with numerous anastomotic angular enlargements, which Scarpa does not specify as ganglions in his text. In the hearts of the larger herbivorous mammals, however, Scarpa describes and delineates both ganglia and fusiform enlargements of the nerves, which he calls corpora olivaria, and these not only upon the nerves at the base of the heart, but upon those that are spread over the superficies of the ventricle: his words are—"Præcipue autem nervorum cardiacorum trunci ad basim cordis et inter majora vasa arteriosa intumescant in vera et genuina ganglia; in Equo autem et Bove etiam in iis ramis cardiacorum qui per cordis superficiem reptant nonnulla corpora olivaria gignunt."* In Tab. VII. fig. 1, he represents, and at p. 42 specifies, some of these enlargements: one, *e. g.* marked 7, as a "gangliformis intucentia;" a second, marked 30, as a "cardiaci sinistri ganglion insigne." Scarpa also describes and figures several nerves independent of, and not accompanying the bloodvessels of the heart, and avails himself of the fact to refute the conclusions to which Behrends had arrived in the treatise above quoted.

The following are the facts relative to the nervous supply of the heart which I believe myself to have established by examination of the fœtal heart, of the heart of a child at the age of six years, of the heart of an adult in a sound state, of the human heart hypertrophied, and of the heart of the ox, and which the preparations are preserved to demonstrate.

The drawing No. 1, entitled "The nerves of the heart of a child nine years of age," natural size, represents the preparation displaying the nerves distributed over the exterior of the left ventricle which come off from the "plexus coronarius posticus" of Scarpa,† together with a few filaments from the "plexus coronarius anterior," Scarpa. It shows the ganglions which Scarpa has delineated below the letters *a* and *b* in his Tab. IV., and also the slight enlargement at point of confluence of three or more nerves, which Scarpa has likewise figured, as *e. g.* between the nerves numbered 58 and 59, and in several other parts of the cardiac nerves displayed in the Tab. IV. above cited. In the place of the long and narrow loop on the nerve which Scarpa figures between the two chief branches of the posterior coronary artery, my preparation shows, as in the drawing herewith sent, a slender fusiform enlargement. The preparation also demonstrates nerves extending beyond the points where they end in Scarpa's figure, as far as the apex of the heart; and a slight expansion and flattening is presented by some of these apicial filaments of nerves, and nerves not coincident in their course with the arterial branches are also shown in the preparation, which have neither been described nor delineated by previous anatomists.

In the dissection of the sound heart of the adult, depicted in the drawing No. 2, entitled "The ganglia and nerves at the apex of the left ventricle of the sound human heart," the additional nerves at the apex of the left ventricle are more clearly shown, in which three slender fusiform enlargements are shown on nerves accompanying the apicial branch of the posterior coronary artery: there is also a well-marked angular enlargement at the point of junction of four nerves near a neighbouring branch of the artery.

The preparation which most distinctly establishes the fact of fusiform enlargements of the cardiac nerves, is that represented in the drawing No. 3, entitled "The ganglia and nerves of the left ventricle of a heifer's heart and cardiac fascia:" in which it will be seen that some of these fusiform ganglionic enlargements of the cardiac nerves are nearly in the same position as that of the "ganglion insigne," described and figured by Scarpa in the heart of the horse, Tab. VII.

The ventricles and auricles of the human heart, and those of the larger quadrupeds, are covered with two distinct membranes. The first or exterior of these is the serous membrane, which lines the pericardium, and is reflected

* Op. cit. p. 2.

† Tabulæ Neurologicæ, fol. 1794, Tab. IV. Nos. 45, 46 47, 48, 60, and 61.

over the whole surface of the heart: this membrane is connected rather firmly by cellular tissue with another tunic, which has scarcely, if at all, been noticed by anatomists. This second membrane has a dense fibrous structure, is semitransparent, and resembles in a striking manner the aponeurotic expansions or fasciæ covering muscles in other parts of the body, and, like them, sends numerous fibres or processes between the muscular fasciculi, bloodvessels, nerves, and adipose substance of the heart, which it binds closely together. This aponeurotic expansion, investing both ventricles and auricles, may be appropriately termed, from its structure and function, the fibrous membrane, or *cardiac fascia*.

The drawings, which have been executed by Mr. West with the greatest pains and attention to accuracy, will supply the need of special verbal description of the nervous filaments, their anastomotic enlargements, and fusiform swellings; and the series of my dissections shows that the nerves of the heart, which are distributed over its surface, and throughout its walls, to the lining membrane and columnæ carneæ, enlarge with the natural growth of the heart, before birth, and during childhood and youth, until the heart has attained its full size in the adult; that the nervous supply of the left ventricle is greater than that of the right; and that when the walls of the auricles and ventricles are affected with hypertrophy, the ganglia and nerves of the heart are enlarged like those of the gravid uterus.

Postscript (received December 21, 1848—read January 11, 1849).—Since the communication above referred to was presented to the Royal Society, I have made a very minute dissection in alcohol of the whole nervous system of the young heifer's heart. The distribution of the ganglia and nerves over the entire surface of the heart, and the relations of these structures to the bloodvessels and muscular substance, are far more fully displayed in these preparations than in any of my former dissections. On the anterior surface there are distinctly visible to the naked eye ninety ganglia or ganglionic enlargements on the nerves, which pass obliquely across the arteries and the muscular fibres of the ventricles, from their base to the apex. These ganglionic enlargements are observed on the nerves, not only where they are crossing the arteries, but where they are ramifying on the muscular substance without the bloodvessels.

On the posterior surface, the principal branches of the coronary arteries plunge into the muscular substance of the heart near the base, and many nerves, with ganglia, accompany them throughout the walls to the lining membrane and columnæ carneæ. From the sudden disappearance of the chief branches of the coronary arteries on the posterior surface, the nervous structure distributed over a considerable portion of the left ventricle is completely isolated from the bloodvessels; and on these numerous ganglionic enlargements are likewise observed, but smaller in size than the chains of ganglia formed over the bloodvessels on the anterior surface of the heart. In the accompanying beautiful drawings, Mr. West has depicted, with the greatest accuracy and minuteness, the whole nervous structures demonstrable in these preparations on the surface of the heart. But the ganglia and nerves represented in these drawings constitute only a small portion of the nervous system of the heart, numerous ganglia being formed in the walls of the heart which no artist can represent. It can be clearly demonstrated that every artery distributed throughout the walls of the uterus and heart, and every muscular fasciculus of these organs, is supplied with nerves upon which ganglia are formed.*

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 9th of August, 1849:—John Langford, St. Leonard's on Sea, Sussex—William Martin Hatfield, Chilham, Kent—Louis Parnell—John Newton Coffin, 23, St. Aubyn Street, Devonport—James Rhodes, Manchester.

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* We must refer our readers to the Transactions for the drawings, which are most clearly and beautifully executed.

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.
Vice-President of the Westminster Medical Society.

[Continued from last vol. p. 985.]

Part XII.

Further remarks on Dutch liquid—its chemical constitution its physical properties—its narcotic power compared with that of chloroform—Cases of its administration in tooth drawing, in midwifery, in cholera—Conclusions.

In a former paper* I gave an account of two or three experiments on small animals with Dutch liquid, by which it was shown that its narcotic properties were of a favourable kind, but that it caused inflammation of the lungs. This latter effect, as I have since ascertained, was occasioned by some impurity—probably sulphurous acid gas—in the specimen of Dutch liquid I then used. I made it myself, by getting the olefiant gas and chlorine to combine in a glass globe, as recommended in Fownes' Chemistry. The olefiant gas was passed through sulphuric acid to separate ether and alcohol, but the sulphurous acid was not separated from it, and I endeavoured to separate that and the hydrochloric acid from the products, when formed, by washing it two or three times in water, but did not succeed, as it since appears. On Mr. Nunnelly recommending Dutch liquid for inhalation last February, it occurred to me that neither the specimen which I had made, nor that used by Dr. Simpson, could have been pure. I accordingly made some more in the same manner as before, but washed it in a weak solution of carbonate of soda previous to distilling it from chloride of calcium. I now got a much less pungent substance,—similar, in fact, to that which I have since received from Mr. Morson and Mr. Bullock. On performing some experiments with it, I found that it possessed the properties which I previously described, with the exception of the irritant ones. I inhaled a little of it myself; but the process of making it being very troublesome and tedious, I had not enough to try its effects in practice till half an ounce was kindly given to me by Mr. Morson on the 20th March, which I used in four cases of tooth-drawing in St. George's Hospital, on the following morning. I have since received several supplies from Mr. Bullock, and have used it in a variety of cases; but, before I describe the results of its application, it will be more convenient to give an account of its chemical constitution, and of those of its physical properties which are intimately connected with its physiological action.

It was discovered in 1795 by the associated Dutch chemists, Bondt, Deiman, Vantroostwyk, and Lauwerenburgh. It is formed by the combination of two volumes of chlorine and two of olefiant gases. The latter, representing one atom, contains four atoms of carbon and four of hydrogen, and is considered to be a hydruret of acetyle,—acetyle being a hypothetic base consisting of four carbon and three hydrogen. When the two atoms of chlorine combine with the hydruret of acetyle, the following is, since the investigations of Regnault, believed to be what takes place. One atom of chlorine displaces an atom of hydrogen, and the hydruret of acetyle is converted into chloride of acetyle, whilst the other atom of chlorine combines with the displaced hydrogen, forming hydrochloric acid, and the two products at the same time uniting, hydrochlorate of chloride of acetyle is the result; and this is the chemical name of Dutch liquid in recent authors. This body is curiously connected with the discovery of chloroform, as was pointed out by Dr. Pereira in a communication on the history of the latter medicine.* Dr. Thomas Thomson, in the edition of his Chemistry published in 1810, gave the name of chloric ether to Dutch liquid, and stated that a solution of it in spirit was useful in medicine as a diffusible stimulant. Some years after this, Mr. Guthrie, a chemist in America, obtained a liquid by the distillation of spirit and water with bleaching powder, which he considered to contain the chloric ether of Dr. Thomson dissolved in spirit; and this product,

* Vol. xlii. p. 331.

* Med. Gaz. vol. xl. p. 953.

which, in fact, consisted of chloroform and alcohol, was used for some time in medicine under the name of chloric ether. In 1831, Soubeiran found that this preparation did not contain Dutch liquid—the chloric ether of Dr. Thomson; and the following year Liebig also made an analysis of it; but, failing to discover the hydrogen in the chloroform, he considered that it was composed of chlorine and carbon; and after this time the medicine was often called ter-chloride or sesqui-chloride of carbon. There are various chlorides of carbon which have been discovered by Faraday and Regnault; but they are very difficult to make, and I believe that none of them have ever been on sale, either for medical or other purposes, and that the so-called chlorides of carbon which have been used in medicine were all of them solutions of chloroform, of which body Dumas was the first to ascertain the true nature and composition.

Dutch liquid is somewhat heavier than water, having a specific gravity of 1·247. It boils at 180° Fah. It is very sparingly soluble in water, and the specific gravity of its vapour is 3·4484. In sensible properties it very nearly resembles chloroform; and hence probably the reason of Mr. Guthrie, when he discovered the latter substance, mistaking it for Dutch liquid. The odour is not quite so fruit-like as that of chloroform, and the vapour feels less pungent; but the reason of this is that a smaller quantity of vapour is given off from Dutch liquid than from chloroform; for I find that when the two vapours are diluted to the same extent—for instance, till the air contain five per cent., and inhaled from a balloon, there is then no difference in the pungency. The physical properties of Dutch liquid which are most intimately connected with its narcotic action, when inhaled, are its volatility and solubility. From some experiments before related it was concluded that in the second degree of narcotism the blood contains one-fiftieth part as much as it would dissolve, and in the fourth degree one twenty-fifth part. These experiments have been repeated with the liquid quite free from impurity, and the results obtained were the same.

I have endeavoured to ascertain the solubility of Dutch liquid as accurately as possible, by admitting small quantities of water to air saturated with the vapour, and confined over mercury in a graduated receiver. The average of a number of experiments gives 1·7 volume of vapour as the quantity that one volume of water will dissolve; and, the liquid being 321 times as heavy as its vapour at 100°, it results that, at this temperature, one part of the liquid would require 189 parts of water to dissolve it.

If the average quantity of serum in the body be assumed to be the same as in treating of chloroform, and a calculation be made of the kind there given,* it will be found that the amount of Dutch liquid in the blood, in the second degree of narcotism, is rather more than twenty minims, and in the fourth degree forty-one minims. In the third degree the amount would be intermediate, viz. about thirty minims. These quantities are nearly twice as large as in the case of chloroform; and this agrees exactly with what I have met with in practice, since nearly twice as much Dutch liquid has been required to cause insensibility as would have been required of chloroform. To estimate the strength of this substance when inhaled, its volatility requires to be taken into account, in addition to the above data. Whilst 100 cubic inches of air at 60° will take up 14 cubic inches of chloroform, they will only take up seven cubic inches of Dutch liquid; and the vapour, moreover, is not so heavy as that of chloroform,—consequently it is not half so volatile. This makes the difference in strength between the two agents still greater. To exhibit more accurately their relative power, the quantity of air may be calculated that a patient would require to breathe, when saturated by either of the two vapours at 60°, in order to be rendered insensible. Eighteen minims is the average amount of chloroform in the blood in the third degree of narcotism, the stage usually required for a surgical operation, and as about as much is expired again without being absorbed, thirty-six minims is about the quantity inhaled before an operation. This would require only 257 cubic inches of air to take it up if saturated at 60°, the air becoming expanded to 294 cubic inches.

* Vol. xli. p. 850.

Thirty minims of Dutch liquid require to be absorbed, as stated above, to induce the same amount of insensibility, and sixty minims would have to be inhaled. This quantity requires 904 cubic inches of air to allow it to be converted into vapour at 60°, the air being expanded to 967 cubic inches, an amount more than three times as great as requires to be inhaled in the case of chloroform; and consequently Dutch liquid has less than one-third the power of the former when inhaled in a similar way. Sulphuric ether is rather stronger than Dutch liquid—the quantity of air saturated with its vapour that is required to induce insensibility being rather more than 00 cubic inches.

For the reasons given above, Dutch liquid is much slower in its action than chloroform;* and whilst the chief endeavour in giving chloroform is to prevent the air from getting too strongly charged with the vapour, in giving Dutch liquid the endeavour is to get the air to take up sufficient of it. In one case, indeed, that of an infant in King's College Hospital, on which Mr. Fergusson operated for nævus, it failed to induce insensibility with the inhaler I was using (one contrived for chloroform), although continued for three or four minutes, and rather than cause further delay chloroform was used.

For reasons similar to those which render Dutch liquid slower in its action, when its effects are once produced they are more persistent than those of chloroform. Medicines so volatile as these escape from the system almost exclusively by the lungs; and as the quantity of Dutch liquid in the blood during insensibility is greater than that of chloroform, it would be longer in escaping, even if it could be exhaled at the same rate; but, being less volatile, it can not. There is a continual tendency to equilibrium between the elastic force of the vapour in the blood and that in the air contained in the pulmonary cells: and if the blood contain, for instance, one-thirtieth part as much of a volatile liquid as it could dissolve, each cubic inch of air which reaches the cells of the lungs is capable of taking up one-thirtieth part as much as would saturate it at 100°; but this quantity is twice as great in the case of chloroform as in that of Dutch liquid. The longer duration of the effects of the latter substance as compared with the former has been very marked in a number of experiments on animals, as well as in practice.

Although, as above stated, a greater quantity of Dutch liquid than of chloroform is required to induce insensibility in the first instance, yet in cases requiring the continued inhalation of the vapour there is but little difference in the amount used; since, from the more persistent effect of Dutch liquid, it does not require to be repeated so often.

The following are the cases in which I have tried the effects of Dutch liquid:—

1. On March 21, 1849, a young woman, about 25 years of age, inhaled it, in the out-patients' room of St. George's Hospital, previous to having a tooth drawn. She was nervous and hysterical, and was alarmed at the inhalation, although very anxious to avoid the pain. She inhaled from the apparatus described before,* between one and two minutes, when she strongly requested to leave off. The tooth, a first lower molar, firmly fixed, was immediately extracted with the forceps by Mr. Parkinson, dresser to the surgeon for the week. The patient cried out slightly as the tooth came out. She said afterwards that the removal of the tooth did not hurt her so much as the lancing of the gum on a previous occasion. In a few minutes the partial stupor caused by the vapour had subsided. This patient was not rendered quite unconscious, but the sensibility, and consequently the pain, were apparently diminished.

2. Another young woman inhaled the Dutch liquid immediately afterwards. She breathed it very steadily. The pulse became increased a little in frequency and force soon after she began to inhale, and the face at the same time became slightly flushed. There was no further symptom, and no alteration in her appearance till nearly four minutes had elapsed, when volun-

* A preparation consisting of equal parts of chloroform and spirit was fraudulently introduced into the drug-market last spring, and sold to a considerable extent as Dutch liquid, although not containing any of that body. This counterfeit liquid would cause insensibility with nearly the same rapidity as chloroform.

* Vol. xlii. p. 843.

tary motion ceased in the eyes and eyelids, and the pupils were turned upwards. The inhalation was now discontinued when she had inhaled just four minutes. The muscles of the jaw were rather rigid, but the mouth was easily opened by making a little pressure on the chin, and a bicuspid tooth was extracted with the forceps by Mr. Parkinson, without causing the least flinch, cry, or altered expression of countenance on the part of the patient. Immediately after the tooth was extracted she opened her eyes, looking bewildered at first, but in one minute after the inhalation ceased she regained her usual expression, and began to wash out her mouth. She said that she had felt nothing. Three minutes afterwards she left the hospital feeling well. The narcotism, in this case, just reached the third degree, and there was complete immunity from pain, as indeed there generally is under the effects of chloroform carried to the same extent, when it is inhaled slowly. The recovery was as prompt as it usually is from chloroform; but it should be noticed that when the inhalation of that vapour is left off just when the symptoms reach the point indicated in the above case, the patient usually begins to recover immediately, even before there would be time to extract a tooth. Two fluid drachms of Dutch liquid had been put into the inhaler, and it was not quite all used by these two patients. A drachm more was added when the next patient commenced to inhale.

3. This patient was a labouring man, between 30 and 40 years of age. Soon after beginning to inhale he commenced to laugh, and he kept the corners of his mouth stretched so widely apart that it was difficult to make the face-piece fit exactly. In about five minutes he appeared to have lost his consciousness, and he muttered incoherently. He soon afterwards became unruly, and was with difficulty kept in the chair. The conjunctiva remained sensible, and he flinched when a hair of his face was pulled. Although he inhaled a few minutes longer, he did not become further affected; the reason of this being, as I afterwards found, that the Dutch liquid in the inhaler was finished. There was great difficulty in getting the mouth open, not from spasm but from voluntary resistance exerted under the influence of some obscure dream. The patient flinched as the tooth was extracted; but on recovering his consciousness two or three minutes afterwards, he said that he had felt nothing. The truth probably is, that the feeling had been obscure, and there was no recollection of it. He complained, however, of giddiness, and began to look pale and sick. In a few minutes he vomited, and then complained of headache. He was complaining of headache and sickness half an hour afterwards, when I left him, expecting that these symptoms would soon subside. But I afterwards found that they continued so severe, with occasional vomiting, that he was kept in the hospital till the following morning, when he left, but came back in the forenoon, complaining that he could not go on with his work. Mr. Hammerton ordered him some medicine containing ammonia, and directed him to return the next morning if he should not feel well He did not apply again.

This is the only case in which I have seen Dutch liquid followed by distressing sickness or headache; and the result might have been the same if chloroform or ether had been used, as such symptoms do now and then follow their use, though rarely to the same extent as in this case.

4. In the above cases the water bath of the inhaler was at the temperature of 60°; in this case it was raised to 70°. Fifty minims of the medicine were put into the inhaler, and a little girl, six years old, inhaled for two minutes. At the end of this time she became insensible, the pupils of the eyes being turned upwards. A decayed molar tooth was extracted without causing the least flinch or cry. In about a minute after the inhalation ceased, the child became conscious, but staggered on attempting to walk. She vomited a little, two or three minutes after this, but in a few minutes more was free from sickness, and pretty well. The fifty minims were not all consumed by this patient.

5. The subject of this case was a patient of Mr. Marshall, of Greek Street, in labour with her second child, on April 24. I exhibited twenty minims of Dutch liquid (all I had with me at the time) during the last three or four pains which expelled the fœtus. The

patient ceased to complain, but continued her expulsive efforts. She was not rendered quite unconscious, but her sufferings were greatly alleviated, being, as she said afterwards, much less severe than before, whilst without the inhalation they would have been much greater. Mr. Marshall was present and attending to the labour. In this and the next three cases the vapour was administered by means of a small inhaler, which I commonly use for giving chloroform in midwifery cases; it consists of the same face-piece which forms part of my other inhalers, and of a short curved metallic tube, lined with bibulous paper.

6. Having expressed a wish to Dr. Murphy, Professor of Midwifery in University College, to try Dutch liquid in some cases of labour, I was called on by him on the day on which the last of the above cases occurred, and accompanied him to a patient of Mr. Jakins, of Osnaburg Street, who had been forty-eight hours in this, which was her first labour. Dr. Murphy, who is about to give the particulars of this and the next case to the profession, found it necessary to divide a thick dense band, extending across the vagina, and also to make an artificial os uteri, and deliver with the forceps. Half a drachm of the liquid being inhaled, it gradually induced a state of unconsciousness, during which the speculum vaginæ was introduced; the uterine contractions and slight expulsive efforts continued as before. A little more Dutch liquid was put into the inhaler, from time to time, so as to keep the patient unconscious. The pupils of the eyes were turned upwards during part of the time. No mental excitement or muscular rigidity was occasioned. Dr. Murphy proceeded to make an artificial os uteri, and to divide the ligamentous band. These operations were partly performed when my stock of Dutch liquid, about three fluid drachms, was all used. It had kept up insensibility for about an hour. Chloroform was now given, so as to keep the patient constantly insensible to the end of the delivery. There was little appreciable alteration in the symptoms on passing from the use of one vapour to that of the other. The effects induced were of the same kind, but they were produced with much less inhalation in the case of chloroform; a few inspirations, now and then, with the valve partly open, sufficed instead of the previous more lengthy inhalation, with the valve closed. The delivery was effected with the forceps about an hour after the inhalation of chloroform commenced, half a fluid ounce of which was used, being a larger quantity than was used of Dutch liquid in the same period; but the patient was kept more deeply insensible during the whole of this latter period than in some part of the first hour, when the operation had not yet commenced. The child was born alive, but breathed feebly, and died next day. The placenta was expelled without hæmorrhage a few minutes after the birth of the child. The patient was quite conscious ten or fifteen minutes after the inhalation was discontinued; and after being bandaged and placed in a comfortable posture, she fell asleep, and slept almost uninterruptedly for twelve hours. She recovered very favourably.

7. On May 18, I administered the Dutch liquid at the request of Dr. Murphy, to a primipara, 35 years of age, who had been 48 hours in labour, when he resolved to deliver with the forceps. Half a drachm was put into the inhaler: the patient objected to the vapour at first, on account of its pungency, but afterwards inhaled readily, and in about two minutes appeared unconscious, the pupils being turned upwards, and the eyelids firmly closed, and resisting the attempt to open them. Dr. Murphy now began to introduce the forceps, and the patient cried out a little: another half drachm of the liquid was put in, and she soon became quiet, and was kept insensible till the birth of the child, which was effected in less than half an hour. She talked in a rambling manner about some ordinary topic once or twice during the inhalation, and also a few minutes after it was discontinued. Two fluid drachms were used in all. The placenta was expelled ten minutes after the birth of the child; soon after this the patient vomited; and fifteen minutes after the birth (the time when the inhalation was left off), the patient began to regain her consciousness. She recovered very favourably, and the child is living.

8. The Dutch liquid was administered in a case of cholera that Mr.

Marshall, of Greek Street, requested me to see with him. The patient was a child seven years old, which had been ill twelve hours. The stools were copious and watery, and devoid of fæcal colour or odour; the vomiting was constant and severe; the features were sunken, and the pulse was about 160 in the minute, and so feeble as to be felt with difficulty. There were jactitation and great uneasiness, the latter probably resulting from cramps. Twenty minims were inhaled, which produced a state of unconsciousness and quiet, from which the little girl awoke in ten minutes. The same quantity was again inhaled, with a like effect, and of rather longer duration. The pulse was improved by the inhalation, being rendered stronger and less frequent; but the chief symptoms of the disorder went on as before. The child recovered.

The relief from inhalation of chloroform in cholera has generally been greater than this in the cases I have witnessed, the unconsciousness having generally emerged into a natural sleep, of from half an hour to two hours and a half in duration, during which time of course the patients were free both from sickness and spasm. Two of the cases were also under the care of Mr. Marshall. I attribute the different action in the above case to some difference in the state of the patient, rather than in the properties of the narcotic.

9. On July 18, a boy, nine years old, inhaled Dutch liquid in the out-patients' room of St. George's Hospital, from the balloon described in my last communication. Each hundred cubic inches of air in the balloon contained four minims of the liquid, or a small fraction over four cubic inches of the vapour. In two minutes consciousness was removed; he then began to resist the further inhalation, but with a little trouble was got to inhale two minutes longer. He was not narcotised beyond the second degree. Voluntary motion was never abolished, but the sensibility of the conjunctiva was diminished. Two incisor teeth of the first set were extracted without being felt (probably without the inhalation there would have been no great pain). He was laid on the bed, and in two minutes recovered his consciousness, but staggered on getting up. In about ten minutes the effects of the vapour had apparently gone off. He inhaled about 1000 cubic inches, and consequently 40 minims of Dutch liquid; this quantity of chloroform would have rendered an adult of twice his weight fully as insensible as he was, if not more so.

The result of my observations and investigations is, that I cannot unite with Mr. Nunnelly in his general praises of Dutch liquid. The only advantages which it possesses over chloroform, in any case, are such as are connected with its slower action and more persistent effects, — properties that Mr. Nunnelly failed to recognize. In all other respects its effects appear to be the same as those of chloroform. It is undoubtedly a very safe anæsthetic; but I doubt very much whether practitioners would be content to wait for its slower action, after they have been accustomed to use chloroform, even if it could be obtained at the same cost, of which there is no prospect. In whatever way Dutch liquid might be used, it would not suddenly occasion a fatal accident without giving due warning; in this respect it resembles ether. Advantage might be taken of its more persistent effect in some operations in the face, in which it is difficult to administer a vapour after the surgeon commences; and also in cases in which the operator is without an assistant, and has to make his patient insensible first, and then to perform his operation. In obstetric practice it would perhaps be more convenient than chloroform, when only one medical man is present, as he might intrust the inhaler to the nurse, and look up two or three times in a minute to give directions; but when there is a practitioner entirely to superintend the inhalation, chloroform has the advantage, as it can be given to the requisite extent just as each pain commences, and the patient can be allowed to recover from its effects, more or less, between every pain.

[To be continued.]

ANALYSIS OF BLOOD RECENTLY SUCKED BY LEECHES.

M. Reveil having by compression expelled the blood from several leeches that had recently sucked, states that having analysed it he found it to be free from fibrin, which he supposes was so far separated by digestion, that the pressure did not expel it from their bodies.—*Journal de Chimie Médicale.* χ

ON VOMITING, AS ANTAGONISTIC TO SYNCOPE.

WITH REMARKS ON CHOLERA.

By J. G. French,
Surgeon to St. James's Infirmary.

Vomiting is a symptom so familiar to every medical practitioner as associated with severe and often irremediable lesions, and is in itself so distressing, that the physician who witnesses it is more inclined to endeavour to alleviate it than to speculate on its physiological bearings. To enter at large on the subject of vomiting would be to engage in a work of great extent: it is my purpose, therefore, to limit these remarks entirely to prove, that in one point of view vomiting may be regarded simply as antagonistic to syncope. I will venture to make the general proposition, that any cause capable of so lowering the force of the circulation as to determine syncope can also produce vomiting. If a strong man lose blood to such an extent as to induce syncope, he will in all probability have a seizure of vomiting. Should this occur during incipient fainting, he will not swoon; if he have completely swooned, we may calculate on reaction on the occurrence of evomition. Thus, then, from so direct a source of enfeebled circulation as the sudden abstraction of blood from a healthy man whose stomach or system contains nothing deleterious, we may confidently rely upon the production of vomiting. The phenomenon of sea-sickness, in my opinion, consists simply of a series of attacks of syncope, followed by a series of reactions. The fact that fainting is produced by a swinging motion on the generality of individuals, is undoubted, and the relief afforded to that condition by the full and active effects of retching, is also equally certain; but as the agitation of the ship continues, these phenomena continue to hold their alternate course until either the rocking of the vessel is discontinued, or the system ceases to be affected by it.

It is highly probable that the action of many of the class of emetics, and also of some poisons, owe their emetic effects simply to their influence in depressing the heart's action, and not to any direct effect upon the stomach itself. So, if any severe shock has been sustained by mechanical injury, when vomiting occurs it is to be regarded as evidence of reaction from a state of more or less syncope which has resulted from it. If we study the physiognomy of a person in a state of syncope, and also during evomition, we find that the two conditions are exactly opposite: in fainting the countenance is completely blanched; while in evomition the capillaries are intensely injected, even to those of the conjunctivæ.

Whatever may be the powerful effects of medicines in curing insidious diseases, in syncope they are peculiarly inert compared with the immediate influence of measures suggested by the physical laws. Thus the horizontal posture is by far more restorative than any of the articles of the materia medica. In examining the mechanism of energetic vomiting, we have only to regard the powerful contractions of the diaphragm and abdominal muscles, in order to understand its effect on the circulation; direct pressure on elastic tubes containing a viscid fluid being obviously the most immediate way of emptying them. Nor should it be forgotten that the blood varies in its degree of its fluidity in proportion to the force of the circulation: thus rendering mechanical action the more important.

I am unwilling to leave the subject without adding a few words on its application to cholera.

In the state of collapse, with the heart scarcely acting at all, and the blood in a peculiarly viscid condition, what measures can be so restorative of the circulation as the action of vomiting? It is a fact connected with the history of the disease, that when this symptom is most remarkable, the disease is least fatal. It is not to be alleged against the medical profession, that deficiency of zeal or inactivity is one of the causes to which the want of success in the treatment of this disease is to be ascribed, and therefore if it be established that the act of vomiting is desirable in cholera, it becomes important to weigh well how far this doctrine is to influence the remedial art. If vomiting after shock produce reaction—if it relieve the syncopal con-

dition of sea-sickness—if it be observed quickly to restore the circulation in the subject of hæmorrhage, surely these are circumstances in which the use of emetics would never for a moment be proposed. It has even been already suggested that the very action of many of the substances which produce this effect do so only by lowering the force of the circulation: thus exciting vomiting as the act of the so-called *vis medicatrix naturæ*.

The use of emetics, then, in the treatment of cholera, is not to be regarded as desirable, for this reason: all reparative processes presuppose vital power to establish them. If, therefore, there be no vomiting, it is a proof of want of vital power to resist the influence of the disease—just as in a fatal syncope there may be no emesis—and that such an action may be there even unattainable.

The object of this paper is, indeed, only to treat of the *principle* on which vomiting is directly beneficial in those states of the system in which circulation is arrested, or is preternaturally feeble: the chief difficulties of the circulation are with the venous system, whose current is derived from the *vis à tergo*. If there be no *vis à tergo* to carry forward the stream, then direct pressure on the vessels is obviously the quickest way in which this can be accomplished; and where this action from vomiting is going on with energy, the circulation is likely to be restored in the quickest and most satisfactory manner consistent with the nature of things. It is true that in some of those apparently helpless cases of collapse observed in cholera, vomiting is continued for a period of seventy-two or even eighty hours before the circulation is fairly established; but the fears of those who regard vomiting as a dangerous symptom of itself, when associated with a depressed state of the circulation, are proved to be without foundation by the general experience relating to sea-sickness.

Although I am persuaded that in the class of emetics, remedies are not to be sought for bringing about the vomiting, which I assume to be one of those remedial efforts of nature which are observed to follow injuries of all kinds where vital power exists, yet I do not doubt that this action may occasionally be determined by other means with advantage; indeed, I am inclined to believe, that if stimulants are ever serviceable at all in acute cholera, it is simply by determining the action of vomiting by which their expulsion is ensured, and not by their absorption into the system. In severe collapse, associated with energetic vomiting, will be observed a vehement thirst, with a strong desire and preference for cold water: if this fluid be freely taken it becomes gradually absorbed, as the baneful influence of the disease wears off, restores the fluidity and the volume of the blood, and thus renders the circulation of that fluid less dependent on the severe compression of the diaphragmatic and abdominal muscles.*

It is frequently remarked that nothing is known of the nature of cholera, and it is alleged as a ground for this assertion that its mortality is great, and but little modified under every conceivable variety of treatment. It should, however, be borne in mind, that the reason why other diseases are not so fatal is, not because we are better informed of their nature and treatment, but because they are less severe. Death at least wears no mask in his approach in the form of cholera.

It is at all events obvious that the heart itself is not performing its functions properly, and that the failure of the circulation constitutes the danger of the malady. It is commonly believed that this state of the circulation is owing to the diarrhœa which attends it, and when death supervenes before the occurrence of diarrhœa, it is said that the alimentary canal already contains the excreted fluid, and that the effect is the same on the circulation as in the case of internal hæmorrhage. But whence does the diarrhœa arise? It has been gravely asserted to proceed from the use of unripe plums, and articles of diet of all kinds reputed to be indigestible; but as experience has clearly shown that it attacks persons who never partake of these things, and that its victims are selected with the

* The argument with reference to muscular pressure applies of course to the cramps of the extremities: these are commonly referred to abdominal irritation, but as precisely the same phenomenon occurs in cases of hæmorrhage, where there is a deficiency of the vis a tergo, and where no abdominal irritation is even suspected, I think it more philosophical to refer them to the same source—viz. to the vis medicatrix naturæ.

same indiscrimination which is remarked in other epidemics, this ground has been to some extent abandoned.

Although the functions of the alimentary canal are so violently disturbed, if we look to it for an explanation of the phenomena of cholera we find the question beset with difficulties. In cases of the worst kind which are short of proving fatal, convalescence is not only commonly too speedy to be consistent with any serious lesion* of the alimentary tube; but it is not even the structure from which most danger is to be apprehended; head symptoms decidedly taking precedence in this respect.

If, however, we look to the heart itself as the organ the function of which is primarily impaired, we find an explanation of all the phenomena.

No one regards small-pox or scarlet fever as diseases of the skin, but as some internal disorder which is beneficially eliminated on the surface, and these eruptions are more or less severe according to the severity with which the vital organs are threatened. It is, indeed, a fact that but for the appearance of cutaneous phenomena the existence of these diseases would pass unobserved in many cases, so slight is the constitutional disturbance. No reason has, however, yet been suggested why a pustule occurs in the one case and an efflorescent rash in the other; but it is easy to explain why an irruption of fluid should proceed from the vessels into the alimentary canal if the power of the heart be diminished, because that is consistent with all that is known and observed in physiology: secretion ever attends congestion — that is, if the congestion be relieved; and it is by this process that the remarkable degree of relief which is afforded by the elaterium, in certain structural diseases of the heart, is to be explained.

I have in former papers attempted to show the analogy between the effects of digitalis (which is generally admitted to possess the power of paralysing the heart's action) and those of cholera—namely, that its moderate effects are evinced by diuresis, while recovery from a poisonous dose is attended with profuse watery purging, incessant vomiting, cramps, cold clammy sweat, and *suppression of the urine for three days.*

It may be here remarked that Dr. Graves and another observer (whose name I forget) record the fact, that diabetes was observed to be common among the attendants of cholera hospitals.

In conclusion, I would observe that whatever view be taken of the nature of the disease, and whatever cause be assigned for the state of collapse, the treatment of that state on just physiological principles demands redilution of the blood with cold water, and that the cramps and vomiting should be regarded as directly tending to restore the circulation.

41, Great Marlborough Street,
30th July, 1849.

* A new light is supposed to be thrown on the nature of the disease by microscopic observation—viz. that the epithelium of the digestive canal is thrown off.

CASE OF

CONGENITAL CLOSURE OF THE RECTUM,

IN WHICH THE INFANT LIVED FIVE WEEKS.

By James George, M.R.C.S.

The male infant of a lady under the care of my father, born 10th May, 1849, had not evacuated the meconium on the second day, although a teaspoonful of castor oil had been given in the morning. The child, which appeared well formed, was restless, could not keep any thing on the stomach, and the abdomen felt hard. The castor oil was repeated, and in the evening—Pulv. Jalap. gr. iv.; Pulv. Rhii, gr. iv.; Pulv. Zingib. gr. j. in pulv. was administered, and repeated the next morning: but every thing returned.

12th.—Continues in the same state: an injection was attempted to be thrown up, but returned. In the evening an examination per anum was made, and it was found that the finger could only be passed up to the extent of an inch, and there the rectum seemed to end in a pouch, exactly resembling the finger of a glove. The abdomen had increased in hardness, and was somewhat distended, but no hardness or protrusion could be felt within the rectum. The urine was voided freely, and was perfectly natural. The nature of the case was ex-

plained to the parents, and that the only hope of relief was the chance of the gut becoming distended with fæces, and felt presenting within the rectum, when an operation might be successful.

13th.—Has passed a restless night, but this morning was disposed to sleep. The following application was applied on flannel around the abdomen :—℞ Spirit Vini Rect. ℥j. ; Camphoræ, ℥ss. M. ft. lin. and salvolatile in peppermint water occasionally given to relieve flatulence. To be fed with milk and water.

14th.—Has remained extremely quiet since the application of the camphor, which was to be renewed once every day. This state of things continued for ten days, when the long continuance of life, as well as the perfect ease in which the child was, led the friends to express a wish for further advice, and on

21st.— Sir Benjamin Brodie was requested to see the child, who agreed with my father that nothing could be done in such a desperate case, particularly as no protruding gut could be felt within the rectum. The infant continued free from pain, and lived in perfect comfort for at least three weeks after.

June 11th.— Sir B. Brodie was again consulted, who saw no method of relieving the unfortunate little sufferer.

12th.—It became restless, and the urine was not freely passed, passing only in drops.

13th.—The stillicidium increased, and the child became more restless, the abdomen very much distended, the feet œdematous : the distended state of the bladder observed after death make it probable that retention of urine was the immediate cause of dissolution.—℞ Liq. Opii Sed. ♏xij. ; Tinct. Hyoscyami, ♏xl. ; Syrupii, ℥ij. ; Aq. Cinnam. ℥iss. M. fiat mist. Coch. min. pro re natâ.

14th.—The child gradually sank, and died in the middle of the day, exactly five weeks after birth.

At my father's request I made the following examination of the body twenty-hours after death :—

The chest and superior extremities were emaciated, the abdomen much distended, the legs œdematous, especially about the ankles.

On opening the cavity of the peritoneum a considerable quantity of serum escaped ; the great intestines were observed much distended ; the omentum greatly attenuated, covering only the transverse colon ; the bladder very prominent, and greatly distended with urine. On examining the alimentary canal, the stomach was found to be very small, about the size of one of the kidneys. The duodenum and jejunum were natural, but the ileum gradually increased in diameter towards its termination, with patches of inflammation throughout its extent. The colon was much distended, and contained a great quantity of yellow feculent matter, which was deposited in masses, having large interspaces of intestine blown out with air, but nothing like meconium was present. Towards the sigmoid flexure the fæces increased in quantity, and the gut there ended in a blind pouch, exactly opposite the base of the sacrum, occupying the greater part of the false pelvis, behind the bladder. This pouch was held in place by a continuation of the meso-colon, which was attached to the sacrum, and from thence the peritoneum passed down into the true pelvis, forming a fold similar to the meso rectum attached to the anterior surface of the sacrum ; but there being no rectum in this situation it was reflected from the fore part of the sacrum on to the posterior surface of the bladder ; and in this fold or its reflection no trace of gut or ligament could be found communicating with the pouch above or rectum below. The only portion of rectum existing was about three-quarters of an inch in length from the anus, and terminated in a cœcal puckered extremity, which was attached to the under surface of the prostate gland by some small fibrous bands and cellular tissue. The kidneys were large and lobulated ; the ureters, in the upper two-thirds of their course, were distended with fluid to the size of the small intestines of a healthy infant, and were almost transparent, but in the lower one-third they had a natural appearance. The remaining viscera were healthy.

4, Hornton Villas, Kensington,
July 1849.

MEDICAL APPOINTMENT—LONDON HOSPITAL.

Mr. Charles Harper was on Tuesday, Aug. 7th, appointed house-surgeon of this hospital, vice Mr. W. H. Holman, resigned.

REMARKABLE CASE OF

OVARIAN TUMOR CONTAINING TEETH AND HAIR.

By William Clapp, F.R.C.S.

House-Surgeon to the Exeter Hospital.

Ann Tamlin, æt. 58, unmarried, was admitted into the Devon and Exeter Hospital, under the care of Dr. Miller, the senior physician, on the 29th of March last. with symptoms of ovarian dropsy. Twenty-eight years since, a swelling commenced in the right iliac region, which continued to increase, so as ultimately to occupy the whole of the abdomen, but very slowly and not affecting her general health, until six weeks before her admission, when a more rapid increase took place, attended with œdema of the feet and ankles, scanty urine, uneasiness at the scrobiculus cordis, and occasional dyspnœa; this aggravation of the symptoms having been attributed to her getting wet while being overheated. Various remedies having been tried without any beneficial effect, and her respiration being much impeded through the distension of the abdomen and pressure on the diaphragm, the operation of tapping was performed on the 17th, three inches below the umbilicus, by means of a large trocar and canula. After a few ounces of straw-coloured serum had escaped, the canula became choked by a thick sebaceous matter; a considerable quantity of which having been discharged, more serum followed; so that, after the lapse of half an hour, seven quarts of fluid were drawn off, but with very little reduction of the immense size of the abdomen. Peritonitis supervened upon the operation, and she sank from its effects, and those of exhaustion, forty-eight hours afterwards.

Post-mortem examination.—On opening the cavity of the abdomen a large quantity of effused fluid escaped: the peritoneum was found to be intensely inflamed and covered with recent lymph, and occupying the whole extent of the abdominal cavity was an immense tumor, which, arising from the right ovary by a narrow neck of about two-thirds the size of one's wris, bulged out to double that size, and, again slightly contracting, immediately increased to the dimensions described, pushing upwards the stomach, liver, and diaphragm, and pressing the intestines backwards. It was firmly united by old adhesions on its upper and anterior surface to the omentum, and slightly so by recently effused lymph to the peritoneum lining the abdominal muscles. Its surface was of a dark purple colour, except in patches where it was thickened and white through former deposits of lymph: some of these were of considerable size, others smaller; and numbers of the size of millet-seeds existed on the intestines and other viscera of the abdomen. The tumor, on being removed, proved to be a cyst varying in thickness in parts, but generally about that of a shilling: its contents consisted of teeth, hair, bony deposit, some transparent masses of a cellular structure (as examined by the microscope), serum, sebaceous matter, and granular fat; which were contained in numerous smaller cysts. Teeth were found in all parts of the tumor, and were counted to the number of forty-three: some were contained in cysts; others imbedded in the semi transparent masses, and two or three were growing from the walls of the parent cyst. In one part a few were imbedded in a mass of bone, bearing a strong resemblance to an upper jaw ununited in the mesial line.*

The teeth consisted of molars, canine, and incisors, but in some parts two or three were united together, and one bore no resemblance to a human tooth. The bony deposit existed for the most part in small irregular portions and plates, without any definite form. The teeth and hair were examined by the microscope, and presented the normal appearance, except that the bulbs of the latter were imperfect. The sebaceous matter melted on the application of heat, and partially dissolved in ether. The uterus was of the size of a small pear, and, with the left ovarium and its appendages, of healthy appearance.

The preparation is preserved in the museum of the hospital.

Exeter, July 20, 1849.

* Mr. Clapp has forwarded to us one of the teeth.—Ed. Gaz.

MEDICAL GAZETTE.

FRIDAY, AUGUST 17, 1849.

In continuing our analysis of the popular suggestions for the treatment of cholera, whether made by professional or non-professional writers, there is one circumstance which strikes us, as we think it cannot fail to strike the reader—namely, that the most opposite modes of treatment are described as having been followed by equally successful results. Is this to be ascribed to the varied aspects of the disease, or to the over-sanguine views of the advocates of particular modes of treatment? Leaving this question, however, for the present, we come to the Spanish plan of treatment, which baffles all theory. It consists merely in the free exhibition of olive oil. This supposed remedy has acquired some notoriety by the extensive announcement of its curative powers through the English and foreign journals. A Doctor Pedro Vazquez claims the merit of the suggestion, and it appears from a long letter recently published, that he used the oil with great success during the prevalence of cholera in Spain in 1833. The mode of administering the oil is thus described by him:—

"Immediately on being attacked the patient is to take three small cups of pure olive oil, allowing eight or ten minutes between each dose. A quarter of an hour after taking the last (or sooner if vomiting has commenced) abundance of water, rather more than lukewarm, is to be drunk until the person vomits, which result should be excited by the introduction of a feather saturated with oil into the throat. A slight rest can then be allowed, when more warm water should be administered (though no more oil); but when the vomiting fatigues too much, a stop should be put to it by giving a large glass of cold water. . . . . It has been observed that many cannot take the three cups of oil, as indicated, because the first causes sickness, but this will be obviated by giving a little cold water after each dose, which must all be taken, as the grand object is to varnish the intestines with oil. . . . . The oil never does harm, but, on the contrary, from the moment it enters the stomach it destroys the force of the poison which produces the cholera. If the invalid on the following day exhibits a foul tongue, a very small cup of the oil may be given, with a little cold water after, and, at the end of one hour, sufficient warm water to cause vomiting as before.

"All medicines and other treatments are prohibited by Dr. Vazquez, who states that the cholera can thus be cured in a few hours, and with less trouble than a cold or rheumatism."

In his work on Cholera, Dr. Vazquez "gives the names and addresses of 130 inhabitants of Seville who were *cured* by him, many of whom had been given over by other professional men prior to his arrival. Some of these were *cured* in a few hours, others in a few days, and the whole form but a section of those individuals whose lives, under Providence, were doubtless saved by Dr. Vazquez." So writes a laudatory commentator on the oleaginous treatment. The first question which occurs to us is: Had the oil anything to do with the recovery? Were not other means simultaneously employed which would have been equally efficacious without the oil? We ask these questions because many cases are recorded in which persons have recovered under the use of cold water only, which Dr. Vazquez appears to regard as a subordinate part of the treatment, only useful to allay (?) vomiting.* We are not aware that this Spanish treatment has been adopted in England.† Probably English medical practitioners consider that it has been *too* successful accord-

* It appears to us that if the oil have any good effect it is only as an emetic, by *promoting* vomiting!

† It has been recently tried at St. Bartholomew's and St. Thomas's Hospitals, and has signally failed.

ing to Dr. Vazquez's reports, and they are, no doubt, like ourselves, inclined to assign the recovery of the patients to other causes. In the following case, recently published in the *Times*, as indicative of the beneficial effects of the oil, we have evidently a *post hoc propter hoc* mode of reasoning, and we are inclined to think that this may be taken as a fair type of the 130 Spanish *cures* of Dr. Vazquez:—

"M. M., a Latter-day Saint, was last night alarmingly attacked with evident symptoms of cholera—cramps, pain over the region of the stomach and bowels, vomiting, and diarrhœa; the evacuations presenting a whey-like appearance. To send for medical aid was out of the question, it being contrary to the decree and rules of their church. The elders of the church were immediately sent for, who proceeded in due form to administer the ordinance, and as a part of that ceremony best olive oil is taken internally, which they (the elders) render holy by some means not understood by the people, except their own clique. Well, then, the first cup of oil was given to him; presently vomiting commenced, after which he felt himself much relieved; a second cup was administered, the same operation ensued, perfect tranquillity pervaded the whole system, and he expressed himself quite cured. The following morning the patient got up and walked about; his countenance was unmistakeably indicative of a recently severe choleraic attack—haggard appearance, shrunken features, and the sunken eye with the dark areola surrounding it. These, then, are the facts of this case, which I render to you unexaggerated. I shall advance no remarks upon the *modus operandi* of the oil in this case, but will leave it for the faculty to judge of its merits or demerits. Whether the oil cured him, or the *vis medicatrix naturæ*, I am unable to say.—Believe me,

"Yours, &c.,

"Tyro Medicus."

Glamorganshire, July 20.

An M.R.C.S., who writes to complain that in all the communications yet made to the daily journals there has been no accordance of views, adds to the discordance by rejecting calomel and salt, and recommending the use of ether and opium.

"To be as short and explicit as possible, the form I adopt is—tincture of opium, 30 minims: compound spirit of sulphuric ether, 60 minims, mixed in a wine glass of water. This is the dose for an adult, which of course should be diminished in proportion to the age of the patient, as by rule established.

"The first dose may be rejected, as it has been in some cases, immediately; but the second, which I have repeated in the space of 10 minutes or a quarter of an hour, I have never yet known to be returned. The subsequent treatment was of the most simple nature. A claret glass of soda water, with a teaspoonful of brandy, was allowed as the only beverage; and an aperient of rhubarb, with compound spirit of ammonia, concluded the treatment, except for the subsequent debility, which was removed by quinine.

"In the premonitory stages of the disease I am now adopting the method suggested by an American physician, an account of which appeared in the *New York Tribune*. I can bear ample testimony to the utility and efficacy of the remedy. The form I use departs in a degree from that recommended by Dr. Bird, inasmuch as I add to the dose of sulphur a few grains of sesquicarbonate of soda on the principle of Mialhe, who says that sulphur should be combined with an alkali when exhibited as a medicament. I also administer the medicine in liquid, knowing that in this form it is more readily taken up into the system. I have not had any experience of the use of sulphur in the stage of collapse, yet I feel that it offers great indications as a remedy, and should most decidedly give it a fair trial, seeing that hitherto no method which has been adopted has furnished results other than of the most negative character.—I am, sir,

"Your obedient servant,

"M.R.C.S."

Wandsworth, July 28.

Such is the mode of treatment, and now for the results. The writer states:

"I have now before me memoranda of 16 cases, which were very severe in every respect, except that they had not arrived at the stage of collapse, though

every symptom was present indicating a speedy passage into that condition. I need not trouble you with further details of the cases; suffice it to say, that *all those persons recovered* from the attack under the treatment alluded to above."

Other correspondents recommend dry toast as an article of diet, and copious libations of rice water as an infallible specific!

A medical practitioner, who signs his name to his communication, advises the employment of calomel and morphia. He gives the following case:—

"Mrs. M., a young healthy married woman, age 22, was, on Thursday, the 12th of this month, suddenly seized at 9 o'clock A.M. with violent pains in the stomach and bowels, vomiting, purging, dizziness of sight, &c., pain producing contractions and cramp. I immediately gave her calomel gr. x., morphiæ mur. gr. j. (in two pills); half an hour after gave her cajeput and mint oil, three drops, with half a drachm of chloric æther and a teaspoonful of cold water—chloric æther and oils to be repeated every half hour until pain and vomiting are relieved. 12 A.M.—Was seized with a fit, sprang out of bed, limbs stiffened, pain and sickness returned, skin and finger-nails blue, pulse scarcely perceptible, skin cold; mustard poultice applied all over stomach and bowels, calomel and morphine pills repeated, chloric æther and oils to be now given every 15 minutes; complains of severe pains in the limbs, purging ceased. 3 o'clock P.M.—Had another fit, pulse very low, skin warmer; æther and oils as before. Half-past 3.—Pain insupportable; calomel and morphine pills repeated. 4 o'clock.—Pain and sickness much relieved, skin warm, complains of weakness and sinking; take egg and brandy beat up, æther and oil to be discontinued. 5 o'clock.—Vomiting returned, skin cold, oils and chloric æther to be resumed every half-hour. Half-past 5.—Reaction come on, skin warm, pain and vomiting much relieved; take saline effervescing, with excess of bicarbonate potash; arrow root and brandy occasionally. 10 P.M.—Vomiting slightly, pulse 72, skin warm; ordered all medicine to be discontinued. 12 P.M.—Vomiting occasionally, skin warmer, complains of slight pains, but expresses great dread of return; ordered morphine, $\frac{1}{3}$ gr., with eight grains of Grey powder in pills, to be taken every two hours during the night; strong beef tea occasionally; passed a quiet night till 5 A.M., when pain and vomiting returned.

"13th, 8 A.M.—Pain insupportable, skin cold, and slight vomiting. Gave two drachms of chloric æther, which produced immediate relief. 10 A.M.—Has slept an hour, vomiting and pain returned, gave calomel, gr. x., morphine, ss. 11 A.M.—Much relieved in every respect. Bowels not having acted, ordered turpentine enema mixed in milk and treacle, which brought away a very large quantity of black fœtid matter resembling pitch and very tenacious; afterwards much green fluid passed, this produced considerable relief: took a rhubarb draught, and the ordinary medical treatment adopted. 11 P.M.—Has passed a quiet day and is much better.

"14th, 10 A.M.—Has passed a good night, feels comfortable, complains of mouth and throat being sore from the calomel, and also very weak.

"15th.—Convalescent and able to walk out.

"July 13th.—Mr. and Mrs. J., residing in the same house with Mrs. M., were seized with pain in the stomach and bowels, purging, and vomiting. Calomel and morphine pills, with chloric æther, were immediately administered, and in the course of a few hours they were both perfectly well."

The writer states that since employing this mode of treatment he *has not lost a patient!*

A "duly qualified medical man," who signs himself Medico-Chirurgus, gives the following account of his mode of treatment:—

"I always administer calomel, 5 grains, and powdered opium, 1 grain, mixed and made into a pill, to be taken immediately; to keep the recumbent posture, and have hot fomentations applied to the stomach, and two hours after taking the pill let the patient take of chalk mixture, $1\frac{1}{2}$ oz.; aromatic confection, 10 grains; tincture of catechu, 1 drachm; laudanum, 5 drops:

mix together. This draught to be taken every two or three hours according to urgency of diarrhœa. I have really seen *such a host of cases cured by this treatment* that I feel I am conferring a boon upon everybody who chooses to adopt it by publishing it, and I would recommend that in every family a small box of calomel and opium pills of the above strength should be kept, together with a few doses of the above draught. In regard to the treatment of children, I have usually given those from 4 years of age to 10, calomel, 3 grains, opium, ½ grain; made into a pill or powder, with hot fomentations, and half of the draught above written every three or four hours, according to urgency of diarrhœa; and to children, from one year old to four, give calomel, 2 grains, opium, ¼ grain, in a powder, and from two to four teaspoonfuls of the above draught every three hours."

Immediately following this letter, and as if to show how "doctors disagree," the editor inserts a letter, also from a "duly qualified" man, signing himself Medicus. His treatment is based upon a theoretical view of the disease. He states that he believes cholera to be

"hæmorrhage, *i.e.* that the serum of the blood is separated from the crassamentum, and the capillary vessels pour out the former from the mucous membrane of the stomach and bowels, and that those of the skin also lose their power. The larger quantity that is discharged from the former is owing, in my opinion, to the heat being so much greater than on the surface, and that that which is called cold sweat is not sweat at all, but an exudation of serum. Taking this view of the case, such remedies should be employed as are calculated to check ordinary hæmorrhage, such as iced water freely administered internally, as well as sponging the whole surface of the body, in the first place, with cold water, and then wrapping the patient in a wet sheet (cold), and covering him blankets. The effect of this will be to check all further exudation, by which you will generate heat, and natural sweating will be restored, as well as the secretion of the liver, kidneys, &c. The usual styptics may be employed, in addition to the above treatment, if thought advisable by the medical attendant.

"You will perceive by this that I object to the use of brandy, opium, warm applications, &c.

"P.S. I think the exhibition of olive oil well worth trying."

We are indebted to Dr. Granville for a somewhat full account of the most improved method of treatment adopted in Russia. He has witnessed the plan, and is inclined to think favourably of it.

"The method here adopted with a patient just admitted into a hospital in a state of collapse from cholera, is to strip him instantly, and lay him, stretched at full length, on the webbed bottom of a couch raised about one foot from the ground. A series of semicircular ribs, like those in our large waggons, moveable towards both ends, and bearing a coverlet of coarse flannel, or a blanket, are then drawn over him, inclosing him thus under a covered ceiling. A couple of nurses bring each in their hands, by means of an appropriate handle, a square iron pan, holding a red-hot square pig-iron, two inches thick, over which, at the very moment of introducing the said pans under the couch, a jug of water is thrown, and the vallance of the couch is let fall around to the ground. The immense volumes of steam arising from the apparatus fill presently, and are retained within the covering, raising in a quick time the temperature of the patient to a very considerable heat, followed by perspiration; upon which he is transferred to a warm bed, and there attended to in the usual manner through the several phases of the disease, which it is not the purport of this letter to detail, as every medical practitioner in England is supposed to be familiar with it. I need scarcely add that friction is also occasionally employed.

"But there is a point in the Russian practice equally novel, I think, which I desire to mention, and that is the recent substitution of a vegetable substance, first recommended by Dr. Tittman, chief physician of the Petropawlosky Hospital, in lieu of the ammoniated, as well as for all spirituous sti-

mulants employed, with the view of dispersing the state of stagnation of blood and inward inanition. This substance was made known to me under the name of '*Samboul*,' said to be the produce of India, and to have in every case led to the most surprising results It may be given in substance, but it is more generally employed in the form of decoction or infusion, by spoonfuls frequently administered. Its power, however, in the way of reanimating the dying energies of a collapsed patient has been found such as to demand great caution, lest it should produce cerebral excitement, and thence a typhoid fever—a consequence that has often been witnessed in the Russian hospitals subsequently to the recovery from the first or more dangerous state of cholera.

"The taste of this singular drug (which in its appearance looks like a mass of roots and leaves of a greenish plant, bruised and pressed together) is strongly bitter, and at the same time aromatic and exciting, the diffused impression continuing long on the tongue and throughout the mouth. I did not recognize it either by its looks or its name; yet it is, possibly, a well-known substance in the pharmacy of our country. I have brought away a sufficient quantity of it to make a judicious trial of its virtues in our own epidemic.

"Such is the most recently improved system of treatment of the malady under consideration in a foreign and distant country, which I was anxious to lose no time in making known to the English public thro gh your columns,—a system based on genuine professional views, intelligible, methodical, and simple; presenting no great difficulties, and under which (combined with other pharmaceutical means, as the circumstances require) a simple diminution in the number of fatal cases has taken place during the epidemic of the present year. This has been especially so in the very hospital I lately named, over which presides the original proposer of the *Samboul* as a remedy, and in which it is to be presumed that that remedy has been more regularly and perseveringly employed. From the annexed return you will observe that in the hospital in question nearly 400 patients out of 617 have recovered. A similarly favourable result has been obtained in the hospital of the Enfans Trouvés, where the deaths were only as one in three.

"It is true that in the general aggregate, the return presents a slight excess only above the half of the number of patients admitted in the number of patients cured; but this has been explained to me as arising from the fact that the return embraces the patients admitted at the very first outset of the epidemic in the summer of 1848, when the disease was characterized by the utmost severity, and had taken patients and physicians by surprise. Distinct from that period, the return would exhibit a much more encouraging feature in the larger number of recoveries."*

With regard to the latter observation made by the writer, it is well known that, irrespective of treatment, the fatal cases invariably diminish in number as the epidemic progresses. The greatest relative mortality is generally observed at the first outbreak. Nevertheless it would be desirable to have a fair trial made of the effects of the drug mentioned in the above extract from Dr. Granville's letter.

The general conclusion from this and other communications is, that the use of *moist air* or the vapour-bath is attended with better results than the employment of *dry hot air*. Both have found their advocates; but the former has the preference for restoring warmth to the skin, and producing a copious perspiration.

If we except this letter of Dr. Granville's, the communications on which we have commented may be regarded as barren and unprofitable. They are calculated rather to alarm than console the public, for whose edification they have been circulated through the daily press, by showing that there is less agreement among medical men regarding the treatment of cholera than of any other disease. Each vaunts the

* The return referred to by Dr. Granville will be found in the previous number of the journal, at page 259.

success of his own practice and the number of his *cures*, regardless of the fact that others have boasted of an equal amount of success, and an equal number of *cures*, by pursuing a diametrically opposite plan. The only inference which the public can draw from these conflicting recommendations is, that *the recoveries were not due to the treatment*, but to other accidental circumstances, overlooked by practitioners. Such a system of publication in the daily newspapers is calculated to destroy all confidence in medical treatment among those attacked by the disease, and it is likely to encourage a discreditable mode of puffing. We have in this way seen patients advertising gentlemen who have attended them, and publishing medical certificates of the great benefit which they have derived from the treatment of a practitioner whose name and address are given at full length!

Those who have the real interest of the profession at heart, will not make a newspaper the vehicle for endeavouring to enlighten the public on the treatment of cholera, but they will rather select a respectable medical journal for their publication. Their suggestions will be then duly weighed, and put to the test of experience.

Our readers will perceive, by the usual weekly summary, that the cholera is still very prevalent in the metropolis, and that it is adding considerably to the weekly number of deaths. In a surplus of 901 deaths above the average, no fewer than 823 were caused by cholera, namely :—

Under 15 yrs.	15 and 60.	Above 60.
240	463	119

This gives an average of 117 deaths daily from this disease during the past week.

The deaths from cholera are not so numerous as in the week preceding, but the difference is so slight as not to allow us to infer that the disease is actually on the decrease. Since the weekly table was made up, there have been in five days (*i. e.* to the 15th inst.) 659 deaths from cholera in the metropolitan districts, making an average of 131 daily!

We subjoin a record of the daily progress of this disease since our last :—

August 11.

	Attacks.	Deaths.
In London and vicinity . .	259	103
In England and Wales . .	222	100
In Scotland	34	15
Total	515	218

August 12 *and* 13.

In London and vicinity . .	476	184
In England and Wales . .	502	233
In Scotland	69	48
Total	1047	465

August 14.

In London and vicinity . .	517	187
In England and Wales . .	539	229
In Scotland	35	18
Total	1091	434

August 15.

In London and vicinity . .	430	185
In England and Wales . .	400	153
In Scotland	47	16
Total	877	354

THE CAUSES OF OPHTHALMIA IN EGYPT.

Dr. Pruner, from his investigations in Cairo, assigns the frequency of inflammatory diseases of the eye to the following circumstances :—

1. Ammoniacal exhalations from the floors of the badly-ventilated dwellings of the inhabitants.

2. The peculiar composition of the very acrid dust which irritates and acts as a chemical irritant on the conjunctiva.

3. The unequal distribution of light in the streets, and even in the apartments of the houses.

4. The difference in temperature in different streets, and the variations between day and night.—*Oppenheim's Zeitschrift.* χ

Reviews.

1. *On the Nature of Limbs.* By Professor Owen, F.R.S. 8vo. pp. 119 with illustrations. London: Van Voorst. 1849.
2. *The Homologies of the Human Skeleton.* By Holmes Coote, F.R.C.S.E. 8vo. pp. 100. London: Highley 1849.
3. *The Article Skeleton.* By Joseph Maclise, Esq. (In the Cyclopædia of Anatomy and Physiology, Part XXXV.)

The celebrated Oken, wandering in the south of the Hartz Mountains, in August 1806, stumbled upon the blanched and partially disarticulated skull of a deer. He picked it up, and was examining it when the idea flashed like lightning across him—"It is a vertebral column." This idea forms the bases upon which are founded all the inquiries into the homologies of the skeleton.

It may be stated to be the definite result of these inquiries, that not only is the spinal column composed of a series of vertebræ, but that the sacrum, the coccyx, and the cranium itself, are also, each of them, composed of a distinct series of vertebræ. As the cervical, the dorsal, and the lumbar vertebræ correspond with each other in general form, in essential character, while they have also essential differences; so the cranium, the sacrum, and the coccyx are each composed of a series of bones possessing the essential characters of vertebræ. On this view—a view accepted by comparative anatomists—we may speak of the cranial, the cervical, the dorsal, the lumbar, the sacral, and coccygeal series of vertebræ.

The essential part of a vertebra is the body, or "centrum." Immediately above the centrum is the neural arch, which, in the vertebræ of the spinal column, encloses the spinal marrow. The neural arch is composed of two lateral plates, called by Professor Owen neurapophyses, and of a spine termed neural spine. The transverse processes are styled diapophyses. The signification, however, of a vertebra is not limited to the centrum and neural arch, but is extended upon established grounds so as to include in the thoracic series of vertebræ the ribs, the costal cartilage, and sternum, which combine to form the hæmal arch, containing the vascular apparatus. We have then the centrum or body of the vertebra, the neural arch, and the hæmal arch. The hæmal arch of the thoracic region is composed of the ribs, pleurapophyses; the costal cartilages, hæmapophyses; and the sternum or hæmal spine. Here, owing to the great size of the vascular axis, the hæmal arch is much larger than the neural arch; but where the vascular axis is reduced to the dimensions of the nervous axis above, the vertebra assumes a more symmetrical character, by the corresponding reduction of the hæmal arch; in the crocodile, for instance, the pleurapophyses (corresponding to the ribs) are detached from the hæmapophyses, the latter being attached to the centrum, and forming, with the hæmal spine, the hæmal arch, while the former (the pleurapophyses) form mere processes on the centrum or body of the vertebra. The essential constituents, then, of the hæmal arch are regarded by Professor Owen to be the hæmapophysis and hæmal spine, corresponding to the neurapophysis and neural spine of the neural arch.

Although the parts just enumerated form the essential elements of a complete vertebra, yet certain vertebræ do not contain all these elements. The lumbar and the cervical vertebræ want the complete hæmal arch; and the coccygeal vertebræ want everything save the centrum or body; the neural and hæmal spine being both deficient.

Homologists are not agreed as to the total number of the series of vertebræ composing the head. While Professors Owen and Oken enumerate four, Spix, Cuvier, and Meckel count three, and Gœthe and Mr. Maclise admit six. According to Professor Owen, whose arrangement is both safe and convenient for adoption, the four cranial vertebræ have each their centrum or body.

The vomer—the eutosphœnoideum, or anterior portion of the sphenoid—the basisphenoideum or body of the sphenoid—and the basi occipitale or basilar portion of the occipital bone, form each respectively the centrum or body of the facial, the frontal, the

parietal, and the occipital vertebræ. All those portions of the cranium which are above the series of centra constitute the neural arches, which in the cranium are excessively developed; while those portions of the cranium below the centra form the hæmal arches.

In the fascial vertebra, the vomer constitutes the centrum—the nasal bones form the neural arch—and the superior maxillary bones, with which the malar are associated, the hæmal arch. In the second cranial or frontal vertebra—the anterior portion of the sphenoid is the centrum—the frontal bones arching over the anterior lobes of the brain form the neural arch, and the inferior maxilla associated with the temporal bones, constitute the hæmal arch. In the third cranial or parietal vertebra the body of the sphenoid is the centrum—the neural arch is completed by the parietal bones—and the hæmal arch by the os hyoides in combination with the styloid process. The basilar process of the occipital bone is the centrum of the fourth cranial or occipital vertebra—the neural arch is formed by the occipital bone, and the hæmal arch by the coracoid bones associated with the scapulæ.

The above is a sketch of the masterly view of the cranial vertebræ advanced by Professor Owen; and those who will compare his description and arrangement with the beautiful separately articulated crania in the museum of the College of Surgeons, or still better in that of St. Bartholomew's Hospital, will readily assent to the general soundness of his views, with the exception, perhaps, of the last statement, that the scapulæ and coracoids form the hæmal arch and the occipital vertebræ. It is certainly very difficult to understand how it happens that the scapulæ and coracoids can form the hæmal arch of the occipital bone, when we observe that these bones are articulated with the sternum, which forms the neural spine of the dorsal vertebræ, while, intermediate to the occipital and the first dorsal vertebræ, there is situated the whole range of cervical vertebræ. We state the objection as it occurs to ourselves, and as it would naturally occur to any one while examining Professor Owen's exposition of the several homologies of the vertebræ. The following appear to us as the principal arguments brought forward by Professor Owen, as we think successfully, in support of his view. In the fish, the anterior fin, which is homologous with the fore-limb, is connected by a pleurapophysis to the occipital vertebræ. This is especially manifest, and in a simple and complete manner, in the lepidosiren, as is well represented in a diagram furnished by Professor Owen in the little work now before us, a diagram taken from the more extended work of that distinguished anatomist on the archetype and homologies of the vertebrate skeleton. In the crocodile, the scapular arch is displaced backwards, but it is manifest that that arch cannot be the hæmal arch of the cervical vertebræ, seeing that those vertebræ are already each supplied with a pleurapophysis in a small moveable rib. How, then, can it be accounted for that the scapular arch occupies this backward and displaced position? Arguments, which are we think satisfactory, are brought forward to show that it is by dislocation that the scapular arch is removed backwards so far from the occipital vertebræ, of which it appears to be the hæmal arch. In the state of early development it appears that the scapula occupies a much more forward and a vertical position, and that with the progressive development the scapulæ move backwards, and acquire a more horizontal position, in order that they may be fitted for the purposes which they have to fulfil in the mature animal. A familiar instance of the partial displacement backwards of a pleurapophysis is cited in the common articulation of each rib with a lower as well as with its own vertebra. Mr. Maclise, in his remarkable and elaborate article, altogether objects to Professor Owen's view, and furnishes us in place of it with some extraordinary, and to us altogether unintelligible comparisons between the scapulæ and the posterior portion or neural arch of an ordinary vertebra: we refer our readers to the author's own description of his views.

Professor Owen considers that the clavicles form the hæmal arch of the atlas, and regards it as no valid objection to this view that the clavicles have an anterior position to the coracoid bones

in air-breathing vertebrata, since in these the true scapular arch is displaced backwards. He points out a pleurapophysis in the fish, which is attached to the first cervical vertebra, and to which is joined a rib like hæmapophysis, which he holds to be homologous with the clavicle. We own we think that the evidence is deficient which is advanced by Professor Owen in support of his view that the clavicles form the hæmal arch of the atlas. The essential differences between the coracoid bone and the clavicle are as yet ill defined: anatomists are not yet in all cases agreed which of the two bones is the clavicle and which the scapula.

Appendages or processes are attached to the ribs of birds and fishes. The researches of Professor Owen bring him to this conclusion, that arms and legs are developments of appendages coming off from, and articulating with, the scapular arch. In the lepidosiren the limbs are little more than mere appendages; consequently in that animal the limbs resemble pretty closely their primitive condition.

Professor Owen, in his interesting little work on limbs, gives a series of excellent illustrations, showing the unity of structure, yet variety of adaptation, of the limbs of different animals.

The fin of the porpoise, employed in swimming; the fin-like fore limb of the mole, with which, scraping and throwing back the soil, it may be said to "swim through the earth;" the wing of the bat, with which that animal flies, and the fore-leg of the horse and cow, on which those animals stand and run, are all composed of a series of bones, answerable or homologous, bone for bone, with the bones constituting the upper extremity of man, invested with its manifold endowments. In all these different beings the unity of plan is shown in the fact that, in each the fore-limb possesses scapula, humerus, radius and ulna, carpus, metacarpus, and phalanges; and the variety of purpose is manifested in this, that with the same, or rather the corresponding limb, one animal swims, another burrows, another stands or walks, and another possesses manifold endowments. For the complete illustration of the admirable unity in variety here referred to, we earnestly recommend to our readers the close study of Professor Owen's work now under review, from which we extract the following passage:—

"If we pause to take a retrospect of the ground over which we have been travelling, and consider the numerous and beautiful evidences of unity of plan which the structures of the locomotive members have disclosed,—evidences so little to be expected, *à priori*, seeing the different shapes and sizes of instruments adapted to such diversity of functions;—when also we find that besides the general conformity of structure in the limbs of different species, a more special parallelism could be traced between the fore and hind-limbs of the same species, no matter to what diversity of office they might be severally adapted—a parallelism or 'serial homology' demonstrable even to each little carpal and tarsal bones, from man down to the monodactyle horse,—the thinking mind cannot but be forcibly struck by such facts, and be impelled with the desire to penetrate further, and ascend if possible to the higher law or generalization from which those harmonies flow." (p. 39.)

2. Mr Coote's work on the Homology of the Human Skeleton, is an attempt to convey the results of Professor Owen's inquiries so that they may be more readily understood by the student: it is, in short, "Owen made easy." The introductory parts are admirably and clearly written, and we gladly avail ourselves of this author's illustrative explanation of the term Homology:—

"An archetype endo-skeleton means that perfect model in which is arranged a succession of the vertebral segments, with their various processes, foramina, and appendages. Although, of course, no true typical vertebrate animal exists, such an image or model is not the less important; because it enables us to recognise, both in the skeletons of different animals as well as in the different segments of the same animal, those points or processes of bone which are strictly speaking homologous. The term 'homologue' is thus defined by Professor Owen:—'The same organ in different animals, under every variety of form and function.' But we use the term 'analogue' to express a part or organ in one animal, which has the same functions as another part or organ in a different animal. The two terms have very different meanings, as the following illustrations will exemplify:—The wings of a bird and the fore-limbs of the lion are strictly homologous parts, but their functions are not analogous. They are homologous, because composed of essentially similar structures—namely, humerus, radius and ulna, carpus, metacarpus, and phalanges, surrounded by muscles for flexion, extension,

supination, and pronation, &c.; but they are not analogous, because the wings are employed in raising and sustaining the bird in the atmosphere, and the fore-limbs of the lion are constructed chiefly for seizing, holding and tearing its prey. The shark supports itself in the rarer strata of the water by means of slow, yet powerful, strokes of its muscular tail; the eagle and the hawk do the same with their wings. These two parts, then, wings and tail, perform analogous functions, *i. e.* both are organs of propulsion; but they are not in themselves homologous, because the pectoral fin, and not the tail, is the repetition of the wing of the bird." (p. 10-11.)

Mr. Coote finds it necessary to employ, in the body of his work, the numerous technical terms introduced by Professor Owen,—terms to which, in this short article, we have been ourselves compelled to resort. We must own that the frequent use of these technical terms, and the absence of explanatory engravings, render Mr. Coote's work difficult to follow; and we would strongly recommend him, in a future edition of his valuable little essay, to supply the defects just alluded to.

3. Mr. Maclise's article on the Skeleton will well repay the perusal of those engaged in the study of Comparative Anatomy. The most valuable part of his paper seems to us to be that relating to the development of the ribs in the different series of vertebræ—thoracic, cervical, lumbar, and sacral. In these points he does not differ essentially from Professor Owen. He differs materially, however, from that profound physiologist and comparative anatomist, in the view which he takes of the cranium, the scapula and upper extremities, as well as the pelvis and lower extremities. We have already said that we consider it safe to follow Professor Owen in the greater number of the views which he advances.

It appears to us that, while much has been done to develope the homologies of the skeleton by Professor Owen and Mr. Maclise in this country, and by Professors Oken, Spix, Carus, and many others on the Continent, much more remains to be accomplished before this subject can be said to have approached its highest development. It cannot be said that that object has been gained until what is now complex and obscure even to the most accomplished anatomists shall be rendered clear and intelligible to the advancing student,—until, in a word, the intricate mass of details now thrown before us with such perplexing profusion shall have been simplified and included within a few undoubted general laws.

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1. *Report on the Climate and Principal Diseases of the African Station; compiled from documents in the office of the Director general of the Medical Department, and from other sources, in compliance with the directions of the Right Honourable the Lords Commissioners of the Admiralty.* Under the immediate direction of Sir William Burnett, M.D. H.C.H. F.R.S., by Alexander Bryson, M.D., Surgeon R.N. 8vo. pp. 266. London: Clowes and Son. 1847.
2. *An Account of the Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone; with observations on Sir William Pym's review of the "Report on the Climate and Diseases of the African Station."* By Alexander Bryson, M.D. R.N. Small 8vo. pp. 174. London: Renshaw. 1849.
3. *Observations upon Bulam, Vomito-negro or Yellow Fever; with a review of "A Report upon the Diseases of the African Coast, by Sir William Burnett and Dr. Bryson."* By Sir William Pym, K.C.H., Inspector-General of Army Hospitals, and Superintendent of Quarantine. 8vo. pp. 311. London: Churchill. 1848.

1. The African station, on which a naval force is maintained by the British Government, extends, according to Dr. Bryson (p. 254), from Cape Verde, fifteen degrees north of the Equator, to Cape Negro, fifteen degrees south. It includes some of the most insalubrious spots on the face of the globe. The first section of the report before us presents us with an interesting sketch of the topography of the several ports, harbours, and other localities visited by our cruisers along this extensive line of coast. The chief physical characters of some of the foci of epidemic, remittent, and yellow fever there to be found, are exhibited in the following extract.

Speaking of the rivers, Dr. Bryson says—

"Their banks are closely fringed with mangrove bushes, among the tangled roots of which there is a thick deposition of blue mud or slime, the detrital sediment of the river water, together with the rotting remains of branches, leaves, and other vegetable matters, swept down from the interior during the rains. These substances it appears accumulate in the estuaries of large rivers, until, after being urged backwards and forwards by the tide, they at last become entangled among the mangrove bushes, or are thrown upon the shore in shallow stagnant creeks, where they rapidly pass into a state of decay, mingled with other substances of a marine nature. During the heat of the day, when the tide recedes and leaves this semi-putrid mass exposed to the heat of the sun, the elimination of fœtid malaria, as may be supposed, is most abundant. It is also supposed to remain suspended in the dense fogs which frequently overhang these morasses from sunset to sunrise. It cannot, therefore, be a matter of wonder that men arriving in these rivers from the clear atmosphere of the open sea, worn out and drenched in perspiration with long and heavy pulling, hungry, thirsty, and at last cold, should fall a prey to the demon of the place—the indigenous pestilence of the swamp." (p. 6.)

The following sections present, in a condensed form, a description of the principal diseases which have prevailed in the respective vessels of the squadron since the year 1823:—

"The most destructive of these is the remittent fever, which prevails throughout the whole line of coast, at all times and seasons of the year, as an endemic, and at distant and uncertain periods it occasionally assumes an epidemic form. It will also appear that although the disease has sometimes broken out in vessels cruizing off, but in close approximation to the land, it has seldom presented malignant characters. . . . . In a few instances it appears to have acquired contagious properties." (p. 35.)

Such a development of contagion, Dr. Bryson, with Sir Wm. Burnett, considers to have taken place on board the Bann in 1824. (p. 35 et seq.)

Intermittent fever, hepatitis, colonitis, and dysentery, were also met with, as might be expected from the climatorial features of the station. For the details of the mournful histories of the fatal visitations of "the demon of the place," the endemic fever in a contagious form,—we must refer our readers to the original report. It should be carefully studied, not only by the medical officers of the navy, but by all who may desire to learn the nature and characters of one of the most deadly scourges that ever arrested the career of European civilization; and where is the student of medicine who can complete his education without some knowledge of such a formidable disease?

The last history in the report is that of the fever on board the Eclair steamer, an event fresh in the memories of most of our readers. All the facts connected with this ill-fated vessel prove that when she arrived in England a highly-contagious fever existed on board of her. That a frightful mortality had attended this fever is also well known. The events connected with this ship subsequently to her arrival in England have been from time to time recorded in our pages,* and to these we must content ourselves with directing the attention of our readers.

After reviewing the diseases of the squadron from the period we have stated, Dr. Bryson devotes the concluding section of his report to the consideration of their causes, prevention, and treatment.

Of the exciting causes of fever, the most common are irregularities of life, boat-service in the creeks and rivers, fatigue, defective ventilation and cleanliness on board, exposure to rain and sudden alternations of temperature, and mental depression resulting most frequently either from failure in adventure or from prevalent mortality.

Among prophylactic measures, the author recommends the exhibition of quinine, the use of tobacco in moderation, cleanliness and dryness of the vessel, ventilation, flannel shirts for the men, &c.

With regard to *treatment*, we find that in the severe form of the disease the active measures formerly adopted have been generally abandoned; that depletion is seldom employed, except locally; that mercurial salivation is discountenanced; that quinine and stimulants, with moderate exhibition of mercurial and other purgatives, comprise the chief points of practice which, in conjunction with other means conformable to the principles of medi-

* Vol. i. N.S. pp. 991, 1029, 1043, 1171; vol. ii. p. 24; vol. iv. pp. 997, 1039, 1081; vol. v. p. 73; vol. vi. pp. 993, 1039.

cine, are attended with the greatest measure of success: but we learn from the entire report that in the worst form of yellow fever, medicine avails little to arrest the progress of the malady,—it pursues uninfluenced its fatal course.

We have endeavoured to present our readers with an outline of the contents of this valuable report, which reflects the greatest credit upon the industry and research of one of our most active naval medical officers. We regret that we cannot afford the space which would be required to fill it up with the completeness which its importance demands, but we trust we have shown that it deserves their attentive study.

2. The smaller work by Dr. Bryson consists of an abridgement or condensation of the facts contained in the Report with which we have been engaged, embodying at the same time the author's rather bellicose reply to Sir Wm. Pym's Strictures on the Report. We may state that, although in the report no very positive opinion as to the contagiousness or non-contagiousness of yellow fever is advanced, yet it is manifest, from the extract already made, that the author considers, as he maintains in the work now under notice, the disease to have originated in local causes, but that it had become contagious in several instances by crowding, &c., of the sick on board ship.

3. Sir William Pym, in the third work on our list, most unhesitatingly asserts, and most strenuously supports, the doctrine of the essentially contagious nature of yellow fever. The views of Sir William may be gathered from the following quotations:—

"It is a disease *sui generis*, differing from all others, and deserving some distinguishing nosological name: produced by a specific contagion, which, when taken into the system, carries on its work of assimilation, when (with high power) it exerts its influence on the villous coat of the stomach in the form of erysipelatous inflammation, which, in mild cases, terminates favourably from the first to the third or fourth day, by what may be called resolution; and in bad cases from the second to the fifth day, in gangrene, or such other diseases as occasion the destruction of the vitality in the part affected." (p. 67.)

"The Bulam fever is a continued fever without remissions." (p. 91.)

"I do not consider it to be an *endemic* of the coast of Africa, but a peculiar disease existing in the interior of the country, like the pestis bubonica of the Levant, originating or produced like small-pox (we do not know how), and conveyed to the coast only occasionally." (p. 259.)

"It is in no way connected with malaria or unhealthy situations. It is *unknown* in the East Indies, in Turkey, or in Egypt, and is a native of, and peculiar to West Africa, as the *pestis bubonica* is to Turkey and Egypt.

"1st. It is a disease *sui generis*, known by the name of African, yellow, or Bulam fever, and is the vomito prieto of the Spaniards, from its being attended with the peculiar and fatal symptom of *black vomit*, a symptom which rarely if ever appears in the marsh or remittent fever.

"2d. It is highly infectious.

"3d. Its infectious powers are increased by heat, and destroyed by a certain degree of cold.

"4th. It attacks natives of a warm climate in a comparatively mild form.

"5th. It has also a singular and peculiar character: viz. that, like small-pox, it attacks the human frame but once." (p. 265.)

It will be at once evident that a wide difference of opinion exists between Sir Wm. Pym and Drs. Bryson and Burnett on the contagiousness of yellow fever: the latter gentleman, as we have seen, regarding the disease as an aggravated form of the endemic African remittent, not originally contagious, but occasionally assuming that character from accidental circumstances; while Sir W. Pym regards it as a disease *sui generis*, and contagious *ab initio*. We shall not, on the present occasion, enter into this controversy; we now only allude to it because it occupies by far the greater portion of two of the works on our list. It is with pain that we observe that the authors, forgetting their high professional position, have condescended to personalities and recriminations such as have rendered the perusal of this portion of their otherwise valuable works a most irksome and distasteful task.

We cannot refrain from expressing our regret, that at the present juncture, when the acquisition of additional light on the obscurities in which the question of contagion is involved is so urgently called for, those who possess ample means of elucidating the subject should still further complicate it by the obstinate maintenance of p econ-

ceived opinions and foregone conclusions.

Surely it is not unimportant that a contagious disease of the most fatal character shall be permitted to be conveyed from place to place to decimate a population; neither is it indifferent that the sufferers from a disease not in itself infectious, and comparatively of low mortality, should be converted into the focus of a wide-spreading pestilence, counting its victims by thousands. On the contrary, this is a fearfully solemn question; and they who retard its settlement by indulging in bitter personal invectives incur a heavy responsibility.

Practical Illustrations of the Treatment of the Principal Varieties of Headache by the Local Application of Benumbing Cold; with remarks on the remedial and anæsthetic uses of Congelation in diseases of the skin and surgical operations. By JAMES ARNOTT, M.D. &c. Pamphlet, 8vo. pp. 54. London: Churchill. Brighton: King. 1849.

DR. JAMES ARNOTT'S contributions to this journal, of December 1st, 1848, and March 8th, 1849, will have put our readers in possession of the principle in treatment which the author desires to make known. The employment of a much lower degree of cold than has hitherto been practised in medicine (30 or 40 degrees below the freezing point of water), and the utility of this low temperature in diseases in which it has not before been recognised, constitute the claims to originality which the author advances in this pamphlet, and in the contributions to which we have referred.

Dr. James Arnott first treats of the pathology of headache—a subject involved in some degree of obscurity, and regarded in very different and opposite points of view by systematic writers. The author discusses the variety of opinions; and regarding headache as an idiopathic disease of an inflammatory character, affecting the external coverings in most cases in which it does not depend on organic disease, when it is obviously symptomatic, he considers the treatment by congelation to be the most certain as well as the most rational which can be employed. At the degree at which the author employs cold, he states that it soothes and immediately checks inflammation by the total arrest of circulation; while in a minor degree it irritates and increases inflammation. Dr. Arnott does not, however, advance his opinions unsupported by experience; he has employed congelation with very great success, and with perfect safety as to consequences, in many cases of obstinate headache: for the details of these we must refer our readers to the essay itself.

The remainder of the pamphlet comprises a reprint of an article, on the Employment of Congelation in Erysipelas, from the MEDICAL GAZETTE, March 9th; and of a paper on its employment as a local anæsthetic, from the pages of the *Lancet*, September 9th, 1848. In the latter the author also dwells upon its use in toothache, prurigo, and several other forms of disease.

SUDDEN DEATH FROM MENTAL EMOTION. DEATH FROM DROWNING.

A FEW days ago, a boy, attempting to procure some water out of the canal which passes at the back of Georgiana Street, Camden Town, was reaching from its bank with a can, when he fell into the water, sank, and did not again rise to the surface. Drags were sent for, and in about ten minutes the body of the boy was drawn up. Every suitable means for the boy's restoration were employed by Mr. Noyce, but without avail, for life was already extinct. While the drags were being procured, a labouring man, who had seen the boy fall into the water, volunteered to plunge in after him, but whilst in the act of undressing for that purpose, he was seized with symptoms of cerebral congestion, terminating in paralysis, and being taken to the adjoining workhouse, died there in about three hours afterwards. On examination of the poor fellow's head, apoplectic extravasation was found.

In addition to the melancholy interest arising out of the fact that the father of a dependent family has thus been suddenly taken from his wife and children, while nobly risking his own life to save that of another, the case is also of some medico-legal importance, from the fact that, if the above consequences of intense mental emotion had not resulted until after this man had plunged into the water, the real cause of his death would have probably remained unknown. It would perhaps have been attributed at the inquest to drowning.

Correspondence.

ON THE USE OF MATICO IN THE TREATMENT OF CHOLERA.

SIR,—The present epidemic, so fearful in its effects, will, I feel satisfied, be an excuse for these few hasty remarks. The rapidity with which, in too many cases, it proves fatal, calls on every practitioner to record as soon as possible whatever may have proved serviceable in his hands, although the same may not appear to be based on physiological principles. Acting upon these views, I forward these few lines, should you consider them worthy a place in your valuable journal. Having tried the various means recommended in the treatment of cholera with very unsatisfactory results, I have at length been induced to treat it as a simple hæmorrhage, from the serous vomiting and purging leaving the blood in such an inspissated state as to render it incapable of circulation, and thus inducing rapid collapse, as in uterine and other hæmorrhages. This practice has almost invariably proved successful. I find unless the styptic be very strong, it has only a partial effect; but, if given in the subjoined form, it arrests the vomiting for a time, and very frequently produces a permanent effect: it is as follows: — Take of Tinct. of Matico as strong as it can be prepared, from ʒij. to ʒss.; Tinct. of Opium, ʒss. to ʒj.; Sp. of Camphor, ℥xv. to ℥xx.; Water, ʒss. M. A fourth part to be taken whenever the sickness or purging comes on: two doses generally suffice for some hours. Should there be any return, a repetition of the medicine again arrests it, and by an occasional recourse to it for two or three days, my patients have in every case completely recovered from the disease.

Hoping that some of my professional brethren may find equal advantages from this remedy, I beg to subscribe myself, sir,

Your obedient servant,

THOMAS SLIPPER.

6, Beckford Place, Clapham Road,
Kennington, August 8, 1849.

THE EMPLOYMENT OF GLYCERINE IN DEAFNESS.

SIR,—Will any of your correspondents inform me what is the real superiority of glycerine over castor-oil in the treatment of certain varieties of deafness. For years I have been in the habit of prescribing warm castor-oil, to be dropped into the ear at bed-time, when there has been heat, itchiness, and dryness of the external meatus, or a deficiency of cerumen; and I have been in many instances much gratified with the results. Seeing glycerine so strongly recommended, I have twice tried it. My experience of it, it is true, is very limited, but not deriving any benefit from its continued use, I have abandoned it for my old favourite, castor-oil. The latter is much cheaper, and more pleasant; but if the former really possess merits which are not to be found in the latter, I should be glad to know them, and shall feel thankful to any one for the knowledge they may impart on this head.

Yours sincerely,

M.D.

August 8, 1849.

*** We believe that Mr. Yearsley, who first proposed the use of glycerine, has now laid it aside as inefficacious. In fact he considers cold water to be just as useful. At the recent meeting of the Provincial Association, Mr. Toynbee stated that he had made 1,200 dissections of diseased ears. In most of these glycerine or any other lubricating application could be of no service. The dryness of the tube was only a symptom of other organic diseases—it was not in itself a cause of deafness.

Since writing the above we have received the following communication from Mr. Yearsley:—

GLYCERINE NOT A REMEDY FOR DEAFNESS.

SIR,—Will you do me the favour to copy the following letter from the Worcester Herald, which will serve to remove the impression from the minds of many of the profession that I am in any shape an advocate for the use of glycerine in deafness, with which I am sorry to find that my name has been improperly associated.—I am, sir,

Your obedient servant,

JAS. YEARSLEY.

To the Editor of the Worcester Herald.

SIR,—In your report of the proceedings of the Provincial Medical Associa ion, I observe that my name is quoted as an advocate for the use of the oil of glycerine in deafness—in fact it is actually denominated "Mr. Yearsley's new remedy, glycerine."

I trust I shall never be guilty of anything half so absurd as to recommend this or any other lubricating fluid to be applied to the outer passages of the ear for deafness. For years past I have denounced in my writings all such antiquated notions of treatment, which ought not to be talked of in the nineteenth century, and in the present state of our knowledge of diseases of the ear.

I beg that you will correct this error in your report, and oblige,

Sir, your very obedient servant,

J. YEARSLEY.

London, 15, Saville Row,
Aug. 8th, 1849.

Medical Intelligence.

DEATHS FROM CHOLERA IN THE VARIOUS METROPOLITAN DISTRICTS SINCE ITS FIRST APPEARANCE IN SEPTEMBER, 1848.

TOTAL of 47 weeks from week ending September 23, 1848—

West Districts	349
North Districts	230
Central Districts	568
East Districts	2,970
	4,964

It is to be observed that of the 4,964 deaths from cholera, 2,970 occurred on the south side of the Thames.

THE CHOLERA IN DUBLIN.

From August 7th to 13th inclusive.

	Remaining.	Admitted.	Discharged.	Died.	Remaining.
Brunswick-st. Hospital . .	10	17	9	8	10
Total since May 1st .	—	413	208	195	10
Kilmainham Hospital . .	20	50	15	16	39
Since opening Apr. 11	—	855	404	412	39

THE CHOLERA AT BRUSSELS.

FROM the 1st to the 12th August there have been admitted into the hospitals of Brussels—

	Cases.	Deaths.
Hôpital St.-Pierre . .	40	17
Hôpital St.-Jean . . .	41	27
Hôpital Militaire . . .	13	2
	94	46

The deaths were as nearly as possible fifty per cent.

THE CHOLERA IN ITALY.

ITALY has been for so long a period the seat of political disturbances, that scarcely any medical news has reached us from that quarter. We regret to learn, however, by the latest accounts, that the cholera has suddenly appeared in Verona, Padua, Vicenza, and Brescia.

THE CHOLERA IN THE UNITED STATES.

ACCORDING to accounts just received, the cholera was still advancing in the United States; and although it would appear to have partially left the western rivers, yet its grasp had been felt on the lake shores. The New York journals teem with columns of reports touching the ravages of the scourge. At New York, during the week ending on the 28th ult., the deaths were several hundreds in number—according to one statement 100 per day. At St. Louis, in the week ending the 30th ult., there was a comparative decrease of 183 deaths.

The report of the City Inspector of New York shows the total number of interments for the week ending the 28th ult. to be 1,352, of which 692 were by cholera, being a decrease, as compared with the preceding week, of 57 in the former and 22 in the latter. The *Commercial Advertiser* says:—

"The number of deaths by cholera reported by the Board of Health in their daily bulletins, for the week ending on Saturday, was 314. Add to the above 62 interments from Blackwell's Island, 40 from Ward's Island, and 3 from Randall's Island, the total number for the week (though probably not all by cholera), from which we have no daily reports, and the aggregate is 419; thus showing a discrepancy of 173 between the daily reports of the Board of Health and the weekly record, the main part of which should probably be charged to the first three days of the week, before the late ordinance of the sanitary committee relative to reports from physicians was generally promulgated. The reports of the latter portion of the week, we believe, give a view of the progress of the epidemic approximating very nearly to correctness. The whole number of deaths by the disease, from its commencement up to this day inclusive, taking the city inspector's report for the whole time, with the exception of yesterday and to-day, was 3,087. In 1832, up to the same period of the epidemic, the deaths were 3,328. The whole number of cases reported by the Board of Health up to and including to-day is 4,275; of deaths, 1,711. Thus showing a discrepancy of 1,376 as compared with the official report of the interments from the first appearance of the disease."

The *Cincinnati Gazette* of the 24th ult. publishes the following estimate of the deaths by cholera in that city since the first appearance of the disease:—

"May 10 to June 15	75
June 16 to July 16	2,475
July 17 to July 23	293
Aggregate of deaths by cholera	2,843"

MORTALITY FROM CHOLERA AT NEW ORLEANS.

THE mortality from cholera at its late visitation compares most favourably with that of 1832, when it first scourged our city. The number of deaths by cholera from the 12th December, 1848, to the 20th January, 1849, as it appears from the reports of the Board of Health, amounts to near 1400, 596 of which occurred at the Charity Hospital. We learn from an interesting Memoir on the Cholera of 1832, addressed to the

Academy of Medicine of Paris, by Dr. M. Halphen, a French practitioner of this city at that time, that the disease made its appearance about the 25th of October, in the midst of an epidemic of yellow fever; that in a few days it raged severely, and that in the short space of twenty days it killed about 6000 people. Dr. Halphen says that the mortality on some days was as high as 500 a day. He estimates the full population of the city then at 50,000; and as cholera broke out during the prevalence of yellow fever, ere yet the absent citizens had returned, and before the customary visitors dared to come in, he does not think the population at that time exceeded 35,000; thus showing the frightful loss of about *one-sixth of the people in about twenty days.* When we read over these sad details, we may well congratulate ourselves upon our happy deliverance from the late pestilence. True, we have lost about 1,400 people, amongst them a few valuable citizens; but what would have been our fate if so malignant a disease as that of 1832 had broken out in December last, when all our own people were at home, and the city was full of strangers? In 1832, *the living could not afford decent burial to the dead.* Dr. Halphen states, that on some days upwards of one hundred corpses were accumulated at the cemeteries waiting for interment. Large trenches were dug, into which cart loads of uncoffined bodies were heaped indiscriminately; and in the dead of the night, a great number of bodies, with bricks and stones tied to the feet, were stealthily thrown into the river. The same ratio of mortality at the present time would demand about twenty thousand victims. Let us turn from the appalling calculation, and thank God that we have been so mercifully spared.—*American Journal of Medical Sciences*, April 1849.

CIRCULAR OF THE ROYAL COLLEGE OF PHYSICIANS RESPECTING THE TREATMENT OF ASIATIC CHOLERA.

The following circular has been recently addressed to Members of the Royal College of Physicians. We trust that the answers returned by hospital physicians and others who have had experience in the treatment of cases of cholera, may have the effect of striking out some useful plan for the guidance of practitioners. Members should bear in mind that the Cholera Committee require the *results* of their *experience*, and no irrelevant details or theoretical speculations:—

"Royal College of Physicians,
Pall Mall East,
6th August, 1849.

"*Resolutions of the Cholera Committee.*

"That Hospital Physicians and other Members of the College be requested to communicate the results of their experience on the subject of Cholera, as at present prevailing, to the Secretaries of the Committee."

Sir,—We are instructed to transmit to you the above copy of a Resolution which was adopted at a special meeting of the Cholera Committee, held at the Royal College of Physicians, on Friday, the 27th ultimo.

We take the liberty of requesting that you will direct any communication with which you may favour us to the care of Mr. Bannister, the Bedell, at the College.—We have the honour to be, sir,

Your obedient humble servants,
William Baly,
William W. Gull,
Secretaries to the Cholera Committee.

THE WET-SHEET AND CHLOROFORM PRACTICE IN CHOLERA.

In corroboration of an opinion expressed in our last number, we have been informed that the wet-sheet practice has had a fair trial on the cholera patients admitted into the London Hospital; but although it had the effect of producing a genial warmth of the skin, and bringing about reaction, *all the patients died.* Chloroform was employed in five cases admitted into King's College Hospital, both in the form of vapour and internally as a liquid, but all the cases terminated fatally. Facts of this kind properly recorded will clear the way for improved treatment. If we cannot yet suggest any successful method of treatment, it is something to know what to avoid, by keeping an honest record of those plans which have been fairly tried, and have been found to fail.

THE PLAGUE OF 1665 CONTRASTED WITH THE ASIATIC CHOLERA OF THE 19TH CENTURY.

There is now, we trust, some reason to hope that the epidemic which for this month past has so seriously swelled the metropolitan bills of mortality has begun to decline. It is indeed, as we recently observed, a task of great difficulty to ascertain with accuracy the true state of the case, for the daily returns are necessarily derived from inconclusive information, and even the statement of the Registrar-General, though much less liable to substantial error, is to be taken with some qualifications at such a period as this. Still it can scarcely happen but that the general increase or abatement of the malady must be indicated by these figures, and as the causes likely to affect their exactness would be nearly the same one week with another, the proportions would remain correct, and would supply safe material for forming an opinion. We are not intending

to assert that the inaccuracies alluded to are on one side alone, or that it is to be invariably concluded that the mortality from the epidemic is greater than it is represented to be. Of the two, perhaps, this is the more likely error than the other; but we have still ample ground for believing that many cases are contributed to the lists which would never have been reported under such title but for the notorious predominance of the particular malady. Judging, however, from these returns, and from the concurrent tenour of the information which reaches us, we think there is fair ground for hope. The rapid, steady, and almost uniform spread of the disorder from the third week in June to the third week in July seems to denote the period of its greatest malignity, and the diminished ratio of its increase, since so distinctly perceptible, would lead us, both by induction and analogy, to conclude that the crisis was past, and that the epidemic had taken the turn. Such, at least, has appeared to be its law of progress in other countries. In a single fortnight we have seen the deaths swell from 150 a-week to 120 a-day, but this average scarcely increased afterwards, and the daily mortality has never yet, we believe, reached 150, and has been several times below 100.

If the people of this city should still be needlessly alarmed, or should look with unreasonable disquiet upon the times in which their lot has been cast, we would recommend them to search the records of the great plague of London, and measure the visitation which they now experience with the calamity suffered by our forefathers. They will then see what a pestilence can do, and from how much they have been spared. At this moment the population of the "districts of London," from which the daily and weekly returns are made, is probably rather above than below two millions. It is impossible to say precisely what it might have been in 1665, but there is no reason, or any supposition, for believing that it could have exceeded 500,000. The probability, indeed, is that the numbers of the community actually visited by the weight of the pestilence were much smaller; for, although the close of the wars and the habits of the restored Court had attracted a considerable influx of inhabitants in the years immediately preceding, yet the first demonstrations of the plague so scared both citizens and sojourners, that a ceaseless tide of emigration had set towards the country before the period usually specified as the commencement of the calamity, and long before the mortality had become considerable. Everybody will remember how Defoe's imaginary citizen sate mournfully at his window, "about midway between Aldgate Church and Whitechapel bars, at the left hand or north side of the street," and looked at the "terrible and melancholy sight of waggons and carts, with goods, women, servants, children, &c., coaches filled with people of the better sort, and horsemen attending them, and all hurrying away." It has been indeed computed that not more than one-third of the ordinary population of London bore the brunt of the visitation in those dreadful months of August and September, 1665.

Supposing, however, that the numbers are set at 400,000 souls, we shall then be able to illustrate the actual ravages of a great plague. The victims of the present epidemic have never yet, even by the highest reports, reached a daily amount of 150; that is to say, not 1 in 10 000 of the population has been carried off in any single day, while the highest weekly return yet declared has been 926. Now in the year 1664, from August 22 to September 26, the bills of mortality, incorrect and incomplete as they were, gave the following specification of the numbers who had died of the plague in five successive weeks; viz. 7,496, 8,252, 7,690, 8,297, 6,460, making a total of 38,195: so that almost one-tenth of the entire population perished in little more than a month! Indeed, it was subsequently calculated by those of the survivors who had the best means of judging, that at this particular period of the visitation fully 10,000 a week died from the plague alone, while the seven-day bills of general mortality were swollen to a total of nearly 11,000 from an ordinary average of about 260, so that the deaths of the season were actually multiplied *fortyfold!* and even when the plague was considered to have been stayed, and all was thankfulness and joy, the weekly mortality amongst this decimated community of some 350,000 souls was more than treble that among our own population of 2,000,000 at the height of an epidemic. Our weekly average of deaths at this season is 1,008. Under a mortality like that of the great plague we should have seen it returned last week at about 41,000, whereas it reached but 1,967.

Nor have we less reason on other points of comparison to be thankful for our lot. The rapidity with which, in malignant cases, the present epidemic ran its course, is often cited as an aggravating feature of the calamity; yet, if reports are to be trusted, there never was Asiatic cholera so speedy in its work as the Oriental plague. Men died sitting, standing, and walking, without warning or symptom, in the streets and courts, and at their own doors. The "plague token" was a never-failing sign of death, but in some instances no such eruption took place, and in many more it was so unaccompanied by pain as to have escaped all knowledge even of the victim himself. Persons infallibly stricken with plague could

often neither detect themselves, nor be detected by others, though an infinite variety of means were suggested and employed for the purpose. But, above all, there were the dreadful consequences of known *contagion*. The sick and dying were blockaded in their own houses, to perish miserably. Fugitives were driven from every hamlet and house to die in the nearest ditch. There was no communication between one man and another; no interchange of aid, information, or comfort. All business was suspended, and three-fourths of the labouring population thrown out of employ, either to invite disease by destitution and misery, or to discharge the only offices for which candidates were then required. The poor women were made nurses, the men took to the churchyard and the dead-cart. Stepney parish alone had 116 grave-diggers and assistants in the course of that single year.

We have recapitulated these details as eminently suggestive at the present period both of thankfulness and warning. We have been spared the experience of a great plague, and have been mercifully dealt by, even in comparison with other communities of the day. But something is always left to be done by mortals themselves, and the decline of an epidemic is often the period at which care and prudence are most peculiarly required. A reaction of feeling is only too natural in the first motions of presumed security; and it was noticed at that terrible visitation of which we have been speaking, that after the virulence of the plague had clearly abated, the recklessness of conduct induced by the relief contributed for a fortnight or more to check the decrease which had begun to set in. It would be very deplorable if any such imprudence should combine with the temptations of autumn produce to cause a similar result in our own mitigated calamity; but we trust that the good sense and good feeling of the English people will lead them more becomingly to appreciate and improve the opportunities they experience.—*Times*.

SPASMODIC ORIGIN OF THE CHOLERA AT SEA. ITS PROPAGATION BY CONTAGION AND SUDDEN CESSATION.

The Report of the New York Board of Health furnishes another to the many remarkable instances already recorded of an outbreak of cholera under most unexpected circumstances, and the conveyance of the disease to a distant locality. Dr. Whiting, in his interesting letter, which forms the principal portion of this report, gives the following account of the outbreak of cholera on board the packet ship New York, as obtained from her first officer, Captain Lines, with the history of the disease after the arrival of the ship at quarantine, as observed by himself.

On the 2d of December, the packet ship New York arrived at quarantine with a number of persons sick, having lost seven during the last week of her voyage with a disease that has since proved to be Asiatic cholera. The New York left Havre on the 9th of November, with three hundred and thirty-one steerage passengers, twenty-one cabin, and thirty-three crew; a total of three hundred and eighty-five. All continued well until the twenty-fifth, Saturday, when one of the steerage passengers, a German, aged twenty-nine, in robust health, was attacked with vomiting and purging, accompanied by cramps of the muscles of the upper and lower extremities. The captain supposed it to be cholera morbus, and prescribed judiciously for the symptoms, but they continued until the third day, when death occurred. The next case was on the 26th, Sunday, when an old man, aged sixty-two, in feeble health, was attacked with vomiting and purging, with coldness of the whole body, and violent cramps and spasms; he died on the second day after the attack. Monday and Tuesday, 27th and 28th, two cases occurred: a girl, aged five years, died in two hours, and a boy also, aged five, died in four hours and a half after their first attack, both perfectly well previously. Wednesday, 28th, a man, aged forty, was attacked at 8 o'clock A.M., and died at 3 P.M. of the same day. On Thursday two children sickened and died, after six and eight hours' illness.

The ship came to anchor at quarantine on Friday night, and from that time until Sunday noon, when the passengers were landed, twelve new cases occurred. The best means of arresting the spread of the disease appeared to Dr. Whiting to be to remove them from the confinement of the ship, and to separate the sick from the well. A steamboat was engaged to bring them to the public store docks. The sick were sent to an excellent hospital room, and good nursing and medical attendance immediately provided. A remarkable feature in the history of this disease is the fact that six persons have been affected in a similar way, who had been but for two days exposed to contact or proximity to these people.

Nothing like cholera existed at Staten Island at the time of the arrival of the ship New York. When her passengers were removed to the public stores, they were occupied by about seventy persons, who had just recovered from other diseases. One of these, a man just recovering from a fractured patella, assisted in the removal of the patients. This was on Sunday; and on the Wednesday following he was attacked with violent symptoms of cholera, and died

the same day. A woman who had been a nurse, without having any communication with these people, but occupying another room in the same building, was attacked, and died the same day, with all the symptoms of cholera. A man who had been discharged and gone to the city of New York on Monday, and had remained a *little over a day* in this same enclosure, was returned from the city as a case of cholera, and died also on Wednesday. On perceiving this communication of the disease to the convalescents, Dr. Whiting immediately sent them away, and distributed them through the other hospitals; since which three others have been attacked, two of whom have died, but none other than those at first exposed at the public stores have been affected. These had all been inmates of the hospital for weeks, were ready to be discharged, and had but a limited exposure for forty-eight hours to the influences of the disease. Two convalescents from typhus fever were subsequently attacked.

What is extremely curious also is, that—

All the persons who have been attacked, from the first case on board ship to the last, excepting the inmates of the hospital, have been from among two hundred and seventy Germans,* who have been living in Havre and its environs, where there has not been a single case of cholera. These persons were originally from Germany, mechanics, and flourishing until, by the triumph of liberty and equality, the native French artisans have succeeded in inducing the public to withdraw their patronage, and the municipal authorities to proscribe them.

No circumstances can be ascertained to explain why these Germans were the exclusive victims. They were all healthy and robust, and had not been exposed to cholera at home; they enjoyed, with the other passengers, the best accommodations, and their provisions were abundant, and of the best quality. The whole number of cases, including twelve taken from the ship, was, on the 19th December, sixty-three, of which twenty-nine had proved fatal. The disease has since entirely disappeared from quarantine, and without extending to the city of New York, or to its neighbourhood.—*American Journal of Medical Sciences*, April 1849.

SHIP-FEVER—CAUSE AND PREVENTION.

Messrs. Fowler and Wells, of New York, have published the sanitary regulations to be observed on ship-board, written by the late Dr. Andrew Combe, of distinguished memory. It is not a new thing, but an excellent old one, reprinted here for popular reading. But as emigrant vessels usually come from England to the United States, the disease of which the paper treats being almost exclusively confined to Irish emigrants, the great market for this reprint would seem to be at Liverpool, Dublin, Cork and Galway, instead of the United States. Still, the disease creeps insidiously into the interior of our country, follows the rivers and canals, and in short pursues the emigrant in all his travels, and in its course sweeps off great numbers of our citizens. If people most exposed to the influence of ship-fever would read and be influenced by the wholesome advice inculcated in this and some other similar productions, human suffering would be very much mitigated, and human life prolonged. But, alas! all cannot read; nor will those who can always profit by the admonitions of benevolent physicians. *Boston Medical Journal.*

SECRET POISONING.

At the recent Anniversary Meeting of the Provincial Medical and Surgical Association, Dr. Sibson brought forward a paper received from Dr. Toogood, of Torquay, who was unavoidably absent, respecting the practice of secret poisoning, which had prevailed of late years to a most fearful extent. Having mentioned several cases in which parties had been secretly poisoned, Dr. Sibson moved, on behalf of Dr. Toogood, that a resolution to petition Parliament should be adopted at the present meeting of the Association, which should embrace the following remedy, which Dr. Toogood conceived would totally put an end to so dreadful a practice; or at least, when death from poison did take place, would infallibly lead to the identification of the parties by whom the poison was administered.

Mr. Fuge, of Plymouth, briefly seconded the motion.

The following are the propositions proposed by Dr. Toogood to be embodied in the petition:—

1st. That no druggist or shopkeeper be allowed to sell arsenic without a license, under a penalty.

2nd. That no person should be allowed to purchase arsenic under any circumstances, unless accompanied by a witness, and unless he can show cause for requiring it.

3rd. That the vendor do keep a book, in which he should make an entry of every such sale, to which the purchaser and his witness should affix his name and place of abode, and that this should be attested by the vendor.

Dr. Tunstall, of Bath, without wishing to throw any impediment in the way of the motion, thought that the plan laid down by Dr. Toogood would be impracticable, inasmuch as the dispenser of drugs would not only object to keep another book (and so

* Except one, a Frenchman from Paris.

they would have all the chemists in the kingdom arrayed against them), but it might happen that the master would not be always in his shop, and arsenic might be sold by an apprentice. With regard to bringing a witness, that was no safeguard; for in one very remarkable case—the murder at Bath—a witness was actually taken to the shop; but, were arsenic for rat-poison to be served in such a form as that it could not possibly be mistaken, or introduced into human food without detection, it would be far more likely to meet the evil. What he should suggest was, that the matter should be left in the hands of the Pr sident to draw up a petition, and get it presented as emanating from the Association.

The PRESIDENT suggested that a Committee should be formed, consisting of Dr. Sibson, Dr. Tunstall, and Mr. Fuge, who should draw up the draft of a petition, which might be submitted to him for any further suggestions, and then, that such an amended petition should be adopted and forwarded to the proper quarter for presentation.

The suggestion was immediately agreed to, and in course of the day the following petition was drawn up and adopted :—

To the Honourable the House of Commons in Parliament Assembled.

The humble Petition of the President and Members of the Provincial Medical and Surgical Association, assemb ed at Worcester, on the 2d of August, 1849,

Sheweth,—

That your petitioners view with just alarm the frequency of the crime of secret poisoning, and its increase within the last few years.

That instances have recently been brought to light in which whole families have been destroyed by poison; and that in these instances, after the lapse of years, the presence of arsenic has been discovered by unerring chemical tests.

That more than one-third of the fatal cases of poisoning in England are occasioned by arsenic, and that in the years 1837-8 there were 185 such cases.

That your Petitioners are convinced that some check is necessary to restrict the indiscriminate sale of poisons, and especially of arsenic, so universally known, so easily procured under the most frivolous pretences, and so readily administered: and that this object can never be effected unless Parliament interposes its authority.

And therefore your Petitioners venture to suggest—

That no druggist or shopkeeper be allowed to sell arsenic, without a license, under a penalty.

That no person be allowed to sell small quantities of arsenic, unless combined with some material, the administration of which with food would be at once detected by the appearance or taste.

That no person should be allowed to purchase arsenic, unless accompanied by a witness.

And that the vendor do keep a book, in which he should make an entry of every sale of arsenic, to which the purchaser and his witness should affix his name and place of abode, and that this should be attested by the vendor.

And your petitioners will ever pray.

FRANCIS SIBSON.
JOHN BATE FUGE.
JAMES TUNSTALL.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 13th inst.:—Messrs. C. H. Payne—A. P. Childs—J. Parker—R. Jones—W. H. Peacey—F. W. A. Rawlins—S. J. Tracy—R. Symes—J. Tilby—S. Reeves—W. Holman — W. Monday—B. C. Dolman.

Admitted on the 14th inst :—R. Close—E. J. Daniell—E. Snell—R. H. Wilson—G. Elin—T. W. Williams—A. E. Fitzgerald—B. A. Robinson.

Admitted on the 15th inst.:—C. Crandell — B. Eyston—W. W. Jones—G. Smith—T. C. Blanchard—E. R. Ray—T. P. James —T. W. B. Greaves—J. Breach—H. B. Lillie—R. Lee—W. S Browne.

THE COLLEGE FELLOWSHIP.

THE following gentlemen were admitted Fellows of the Royal College of Surgeons on the 16th inst. :—S. A. Bindley, Birmingham —P. L. Burchell, Kingsland Road—E. D. Hacon, Hackney—E. L. Hussey, Oxford—H. T. Leigh, Turnham Green—T. Littleton, Saltash, Cornwall—J. Morgan, Alonon Place, Hyde Park Square—E. Palmer, Westminster—G. H. Smith, Stevenage, Herts—F. Wildbore, Ealing, Middlesex, late house-surgeon to the Westminster Hospital.

GENERAL MEDICAL ANNUITY OR RELIEF FUND SOCIETY.

AT the Annual General Meeting of this Society, held at the Hanover Square Rooms, London, on Thursday, the 26th of July, 1849—G. J. SQUIBB, Esq., in the Chair:

Mr. DANIELL, (of Newport Pagnel) the Managing Director, read a long Report, from which we make a few extracts :—

"The period is arriving when parties will be entitled to claim assistance, but before that claim can be granted, the original proposition must be realized—viz. a capital sufficient to meet those claims. In my address you will find 1000 members were required; with this number, at the end of five years, a capital of £6000 would have been accumulated. We do not at present number 200; consequently our capital falls short,

but by energy and perseverance the amount might be obtained. It is, however, not to the few, but to the many, we must look for the accomplishment of the design. You will be kind enough to recollect that the smallness of our number and the shortness of our means limit our power as regards expense; for it must be obvious that a National Institution requires, even to make it known, considerable funds. My idea is that we have accomplished a great deal with our small means. When once thoroughly established, these expenses will lessen, and then I think my original expectation will be fulfilled—viz. that the subscriptions being received in guineas, and disbursed in pounds, the shillings will be nearly adequate to pay expenses. It will be necessary in the new rules to be more explicit on the subject of this capital.

"The Honorary Local Secretaries still complain of the apathy of the profession, and find it a hard matter to enlist recruits in our cause; but I am not on this account disheartened. The medical public may still think our project not based on principles stable enough for its object, or capable of meeting all the casualties to which it may be subject. Remember that this Society is open to improvement: its rules and regulations are so framed as to be capable of receiving the enlightened suggestions of its members, and to be remodelled so as fully to answer the object it has in view. My own desire, and the desire of those who have been connected with me, is to form a perfect Institution—as perfect, at least, as a human Institution can be. If it have faults, then, either in principle or detail, these faults are capable of being removed, and we call upon the enlightened members of our profession to aid us in removing them.

"Gentlemen, I feel bound to ask you a question—Are the greater number of our professional brethren in a way to make wealth by their profession? Does not every thing at this moment tend to sink and depress them? Compelled under the Poor Law to labour without remuneration—ready at all times to give gratuitous advice to public Institutions—trenched upon by the vendors of drugs, and last, though not least, invaded by the impudent quack, who matches ignorance with science, and as far as pounds, shillings, and pence are concerned, obtains the mastery.

"There are hundreds of medical men at this moment who can by their utmost exertions make only sufficient for their common wants, and many cannot even do that. The California of physic has its gold only in small strata, and few are they that find it. What is to become of these men if the hand of God be laid upon them in sickness? or what of their wives and children when death has been busy with the parent head? The tradesman and the mechanic have their Friendly Societies, and they are sufficient to meet the contingencies of sickness and death, while other institutions exist amongst them for the relief of the widow and the orphan. I pray, gentlemen, we may not be outdone by these; never let it be said that the benevolence of the artizan exceeds the benevolence of a profession like ours. If so, learning has not improved the heart, nor is intelligence a blessing.

"Gentlemen, the points to which I particularly wish to call your attention, are—1st, the necessity of founding a permanent Committee in London, which should now be considered the central point. I suggest this because I am unable to command a sufficient number of members to work with me, either in my own town or Northampton. To one gentleman in Newport Pagnel, I am especially indebted—Mr. Rogers, the elder: his aid and assistance I can always obtain, and to his judgment and co-operation the Society is much indebted. London, however, being the grand emporium of the kingdom, commanding as it does not only a vast supply of the materials we need, is likewise the centre of attraction to our provincial brethren, and is of such easy access that however remote the residences of our members may be, railroad ramifications give them facility in reaching it. It has occurred to me often—and on some occasions I have developed those views — that to form branches of the Society in other towns would be more effective in carrying out the principles, and in working the Institution, than by Honorary Local Secretaries. The manner in which this may be done will form the subject of future thought and consideration.

"The next point to which I would call your attention is, that our Rules and Regulations should be so revised that they may be rendered conformable to the Acts of Parliament especially founded for the protection of Societies of this nature.

"Gentlemen, I trust I shall live to see my ardent hopes accomplished, to see the power and influence of the profession exerted in this great, this glorious, this noble cause. It needs only combined energy and combined philanthropy to do anything and everything required. The means, I am satisfied, are within our reach; and I hold the sin of omission in this matter more grievous and more offensive in the eye of God than the sin of commission in many others. I implore you, then, to lend a helping hand, whether you be rich or whether you be poor: there will be a solace in your dying hour, more sweet, more holy, more heavenly, than my words can express, or my thoughts entertain."

Receipts and Payments from Oct. 4th, 1848, to July 25th, 1849.

Receipts.

1848.	£.	s.	d.
Dec. 4. Balance in the hands of the Treasurer	356	16	8
Balance in the hands of the Managing Director . . .	27	11	6
Balance shown by the late Secretary's Account to be in his hands	64	8	0
Amount of Subscriptions and Donations received from 4th Dec. 1848, to 25th July, 1849, inclusive	100	10	0
Interest allowed by Bankers .	4	4	0
	£553	10	2

Payments.

1849.	£.	s.	d.
July 25. Expenses to this day.	19	8	7
Balance shown by the late Secretary's Account to be in his hands, less his own salary, and some expenses not yet arranged	64	8	0
Balance in the hands of the Treasurer	413	7	8
Balance in the hands of the Managing Director . . .	56	5	11
	£553	10	2

Dr. GARDNER proposed the first Resolution—

"That the Report now read be adopted, printed, and circulated amongst the members of the Society, together with the Balance Sheet."

Dr. Gardner had great pleasure in proposing this Resolution, for he had listened to the Report with unmixed pleasure: admiring as he did the spirit which pervaded it. He was confident that the circulation of the Report would tend in no small degree to the advancement of the Society.

GEORGE KELSON, Esq. (of Seven Oaks, Kent), seconded the Resolution, which was carried unanimously.

GEORGE ROSS, Esq. (of Farringdon Street), proposed the second Resolution—

"That a Committee be formed in London for the purpose of inquiring into the principles of the General Medical Annuity or Relief Fund Society, and that the said Committee shall consist of the following gentlemen, with power to add to their number, viz.:—

Metropolitan.—Dr. Webster, Dulwich; Dr. Gardner; John Propert, Esq.; James Bird, Esq.; George James Squibb, Esq.; Joseph Wells, Esq.; Peter Martin, Esq.; William Self, Esq.; Edward Headland, Esq.; T. C. Girtin, Esq.; J. H. Tucker, Esq.; C. F. Lord, Esq.

Provincial.—Dr. Burnett, Alton; Dr. Cowan, Reading; Dr. Roberts, Bangor; W. Lambert, Esq., Sowerby, Yorkshire; Robert Martin, Esq., Holbrook; John Ranson, Esq., Ipswich; Thomas Paget, Esq., Leicester; Francis Elkington, Esq., Birmingham; Charles Smith, Esq., Highworth; David Rice, Esq., Stratford-on-Avon; J. G. Leete, Esq., Thrapstone; J. H. Barker, M.B., Bedford; John Rogers, Esq., Newport Pagnel; E. Daniell, Esq., Newport Pagnel; G. H. Betts, Esq., Watford.

Mr. Ross had looked for some time with great interest upon this Society, and he was satisfied that it was of a character peculiarly calculated to meet the wants of the profession. It was not an Insurance Company, but a co-operative Society, furnishing, in the language of Mr. Daniell, an opportunity for the rich to help the poor. Mr. Ross then entered very fully into the merits of such an Institution; and although it was probable that Mr. Daniell's plan required some modification, its general principles were of the character he advocated; for the parties for whom Mr. Daniell sought to obtain help were those whose circumstances prevented them paying large premiums for annuities.

Mr. SMITH (of Highworth) seconded the Resolution.

Mr. MARTIN (of Holbrook) proposed the third Resolution. He had certainly been very anxious for the success of the Institution, and had exerted himself in his own neighbourhood, and with considerable success. He should be most happy to see it placed upon such a foundation as would be a guarantee of its stability, and that the labour he had already exercised, and was willing to exercise, would be productive of the advantages he anticipated. He therefore had great pleasure in proposing—

"That power be given to the said Committee to remodel the Rules and Resolutions, if necessary, with a view of submitting them to the members for their consideration, according to Rule 17; and, in the event of their approval, to consult an actuary."

Mr. RANSON (of Ipswich) seconded the Resolution, which was carried unanimously.

Mr. BIRD proposed the fourth Resolution—

"That power be given to the said Committee to appoint such officers, both paid and honorary, as may be required for the propagation of its principles amongst the members of the medical profession, and the humane and benevolent who may be disposed to contribute to its support, and to

make such further provisions for the advancement of this Society as shall appear to them best calculated to promote its usefulness and value."

Mr. Bird entered into a most elaborate disquisition on the merits of this scheme, interspersing his observations with beautiful and pertinent remarks, most valuable in themselves, but which it would be impossible to condense into this Report and do them justice. The Society, however, will reap the advantage of these views, fully developed as they will be before the Committee.

Mr. Propert proposed that the thanks of this meeting be given to Dr. Robertson, of Northampton, for his valuable services as President to this Institution, and to express their deep regret at his resignation.—Carried by acclamation.

Mr. Bird arose to propose a Resolution which he was sure would be cordially accepted by the meeting. They had heard the Report read by Mr. Daniell, and no one who heard that Report but must admit the spirit of benevolence which ran through it. Of Mr. Daniell's professional attainments they were not ignorant, but of the vast labour in the establishment of this Institution no one could speak in terms sufficiently laudatory. There must have been a vast expenditure both of time and money; and the talent, benevolence, and untiring zeal he had evinced were above all praise. He should therefore propose, "That the cordial thanks of this meeting be given to Mr. Daniell, for the great energy he had displayed in carrying out this noble and generous cause."

Mr. Propert had the greatest pleasure in seconding that Resolution. He had not the pleasure till then of knowing Mr. Daniell; but he had read so much, and heard so much, of his indefatigable exertions in the cause of the widow and the orphan, that he could but love the man for it. Mr. Daniell had earned for himself a name which would go down to posterity eternalized in the annals of our profession, for benevolence, zeal, and talent, in one of the best causes which actuates the spirit of man.—Carried by acclamation.

The thanks of the meeting were unanimously given to G. J. Squibb, Esq., for his very able and gentlemanly conduct in the chair.

HONOUR CONFERRED ON SIR JAMES CLARK BY THE IRISH COLLEGE OF PHYSICIANS.

We are informed that during the recent visit of the Queen, Sir James Clark was elected by the Royal College of Physicians of Ireland, an honorary Fellow of the College. The honour was well deserved, and reflects credit upon the College.

UNIVERSITY OF LONDON.

M.B.—FIRST EXAMINATION. PASS EXAMINATION, 1849.

Monday, August 6.—Morning, 10 to 1.

Anatomy and Physiology.

Examiners, Mr. Kiernan and Prof. Sharpey.

1. The frontal and parietal bones being removed, describe the surface comprised between the remaining portion of the margin of the orbit anteriorly, the superior margin of the petrous portion of the temporal bone posteriorly, and the median plane internally. Commence the description at the margin of the orbit, and proceed towards the posterior limit, mentioning the portions of bone entering into the formation of the part to be described, the sutures, fissures, and foramina (and the parts occupying them in the fresh state), in the order in which they occur.

2. Commencing at the integuments on the posterior aspect of the Thigh, describe the parts which would be met with in fully exposing the posterior surface of the Adductor Magnus muscle.

3. Commencing the dissection at the integuments, describe the parts brought into view in exposing the Omo-Hyoideus from the point at which it emerges from behind the clavicle to its insertion.

4. Give a brief account of the system of the Vena Portæ, mentioning its condition in the fœtus, the changes which take place after birth, and any points in which it resembles, or differs from, the general venous system; and the walls of the abdomen being removed, describe the steps of the dissection required to expose the course of the Splenic Vein, the terminations of the Inferior and Superior Mesenteric Veins, and the trunk of the Portal Vein as far as its entrance into the Liver; mentioning the relations of these veins to other parts.

5. Describe in their relative position the parts brought into view on removing the undermentioned muscles, viz.—

The Pectoralis Major and Deltoid.

The Glutæus Maximus.

The Trapezius.

The Gastrocnemius, Plantaris, and Soleus.

Afternoon, 3 to 6.

Anatomy and Physiology.

Examiners, Mr. Kiernan, and Prof. Sharpey.

1. Describe the Hip-joint, giving an account of the acetabulum and of the upper extremity of the femur, of the cartilages, synovial membrane, and ligaments, and of the movements which take place in the joint, mentioning the muscles by which they

are severally effected. Compare the shoulder and hip-joints as regards their construction and movements.

2. Commencing at the skin of the Perineum, give the dissection required to expose as much of the Levator Ani as can be seen in this situation, describing the parts in the order in which they occur.

3. Give the dissection required to display the Flexor and Pronator muscles on the forearm; describing, in the order in which they would be exposed, the muscles, fasciæ, ligaments, vessels, and nerves met with in the dissection, which is to be limited below by the wrist.

4. Describe the situation, connections, form, and structure of the Uterus, Vagina, Fallopian Tubes, and Ovaries, with their vessels and nerves.

5. Give an account of the structure and arrangement of the Choroid Coat and Iris; mentioning briefly the uses assigned to these parts of the organ of vision.

6. Give an account of the structure and chemical composition of Articular Cartilage.

Tuesday, August 7.—Morning, 10 to 1.

Chemistry.

Examiner, Professor BRANDE.

1. *Oxygen*, *hydrogen*, and *nitrogen* are required *perfectly pure:* describe the modes of so obtaining them, and of testing their purity.

2. State the distinctive chemical characters of *potassa*, *soda*, and *lithia*—and of *baryta* and *strontia;* and how the three former and the two latter may be analytically separated.

3. Define the terms *Isomorphism* and *Isomerism* as applied in Chemistry, and give several illustrative instances.

4. What are the usual constituents of the common *fixed oils*, and how are those constituents separated and purified? Give their formulæ.

5. Describe the best modes of preparing *Emetic-tartar*, the *oxysulphuret of antimony*, and the *antimonial powder* of the Pharmacopœia, giving their atomic composition, and that of the several *oxides of antimony*.

6. How may *Quinia* be best obtained? what is its composition, and what are its distinctive characters as opposed to those of *Cinchonia?* State the composition of *Sulphate of Quinia*, and the tests to which you would submit that salt with a view of determining its purity.

Afternoon, 3 to 6.

Materia Medica and Pharmacy.

Examiner, Dr. PEREIRA.

1. Enumerate the officinal substances commonly termed Narcotics, classifying them in natural-history order. State first their general physiological effects, then their individual peculiarities of operation. Mention their respective therapeutical applications, and the cautions to be adopted in the employment of each. Lastly, give a sketch of the treatment of narcotic poisoning.

2. Give a sketch of the pharmacological history of Arsenious Acid, to include

α. Its manufacture.

β. Its composition and properties (physical and chemical).

γ. Its tests.

δ. Its effects both in medicinal and in poisonous doses.

ε. Its therapeutical uses, the cautions to be observed in its employment, and its dose.

ζ. The mode of preparing, the strength, and the dose of *Liquor Potassæ Arsenitis*, Ph. Lond.

η. The treatment of arsenical poisoning.

3. Give a brief botanical description of *Papaver somniferum*. Describe the method of obtaining Opium; give a sketch of the process for the extraction of Morphia; and describe the physical and chemical properties of this alkaloid.

4. What is the cause of the black line on the gums in poisoning by lead; of the black colour of the stools after the use of chalybeates; and of the slate colour of the skin after the prolonged employment of nitrate of silver?

5. How would you distinguish a pure solution of bicarbonate of magnesia from an extemporaneous solution of sulphate of magnesia and bicarbonate of soda?

Wednesday, August 8.—Morning, 10 to 12.

Botany.

Examiner, Rev. Prof. HENSLOW.

"Questions restricted to the limitations specified by Syllabus for Pass Examination."

1. Define the terms Inferior, Loculicidus, Corolla, Folliculus, Placenta, Spatha.

2. Give such diagnoses of the following Orders as may be sufficient to include our British genera:

Lineæ, Compositæ, Labiatæ, Aroideæ.

3. Give such diagnoses of the following Genera as will include our British species—alluding also to such of the more important or prominent peculiarities in the flower, fruit, and seed, as you may happen to remember:

Helleborus, Apium, Convolvulus, Salix, Carex.

M.B.—FIRST EXAMINATION.—1849.

First division.

Beale, Lionel Smith, King's College.
Duthoit, Thos. J., St. Bartholomew's Hosp.
Head, Edw. A. H., King's College.

Houlton, Joseph, Charing Cross Hospital.
Jordan, Robert C. R., King's College.
Langham, John P., University College.
May, George, King's College.
Neale, Richard, University College.
Odling, William, Guy's Hospital.
Pardey. Charles, King's College.
Stocker, John Sherwood, Guy's Hospital.
Thompson, Henry, University College.

Second division.

Betts, Nathaniel Philip, University College.
Dickinson, James Charles, King's College.
Heale, James Newton, St. Thomas's Hosp.
Hunt, Richard, Guy's Hospital.
Jones, James, Royal Coll. of Surg. Ireland.
Keyworth, John White, St. Thomas's Hosp.
Lobb, Harry W., St. Bartholomew's Hosp.
Monckton, David Henry, King's College.
Scriven. John Barclay, University College.
Smyth, J. P., Jervis Street Hosp. Dublin.
Steele, William Palmer, King's College.
Vaux, James, King's College.
Webster, George, University College.

OBITUARY.

We regret to have to announce the death of Dr. Henry Burton, senior physician to St. Thomas's Hospital. This event took place after only three hours' illness. Rumour has assigned the cause to an attack of cholera; but we understand that the deceased was labouring under disease of the heart. Dr. Burton had been long favourably known to the profession. It was he who first pointed out the production of a blue line on the gums as diagnostic of lead-poisoning. His career has been suddenly cut short in the prime of life.

Lately, in the 70th year of his age, Sir Charles Scudamore, M.D. F.R.S.

At Münster, in his 87th year, M.C. Bartholdi, Professor of Natural Philosophy, Chemistry, and Natural History, at the Central School of Colmar.

On Saturday, the 11th instant, at Henley-on-Thames, aged 77, John Henry Judson, Esq., 47 years a medical practitioner at Ware, Herts.

Selections from Journals.

CASE IN WHICH A CORPUS LUTEUM WAS FOUND COINCIDING WITH MENSTRUATION.

Dr. Myddleton Michel, in an interesting article "On the Dependence of Menstruation upon the Development and Expulsion of Ova," relates the following case in which he found a corpus luteum in the process of formation, coinciding with menstruation.

The subject of this case was a woman convicted of murder, and executed on the 10th of Sept., 1847. At the post-mortem examination, which was conducted by Drs. Gaillard, De Saussure, and Cain, Dr. Michel requested that the internal organs of generation should be closely inspected.

Upon the removal of the uterus and its appendages, says Dr. M., we remarked that there was no perceptible increase of size in the parts, though evident signs of congestion were detected, particularly in the tubes. The mouth of the uterus was slightly opened, tumefied, and its orifice dripping with blood. A vertical incision being made through the organ, the internal surface was found coated with blood, though the congestion of its mucous lining membrane was particularly confined to the upper part, about the entrance of the tubes. The stroma of the ovary of the right side presented a number of vesicles working their way towards the surface, and on the surface one or more vesicles, in progress of development, containing a quantity of clear fluid, which was ejected with much force as they were opened. In the ovary of the left side several others were also present, but on the anterior surface we discovered a ruptured Graafian vesicle, whose orifice was partially closed by a clot of blood. This was evidently the one which had just discharged its ovulum. But being unprovided with the proper instruments, by the mutual suggestion of Dr. Gaillard and myself, I took this rare specimen with me to examine it carefully.

I apprehend I can clearly establish, from the condition in which I found the vesicle, that the woman was not pregnant, and that menstruation had only began a day or two. She was incarcerated some weeks previous to her execution, and her anxiety and suspense before she was apprehended, incline me to believe that her every thought must for some time have been directed to her approaching fate. But a better argument is furnished by the vesicle in question, for its rupture had positively just occurred, and here are the proofs: the opened vesicle was only partly closed by a clot of blood; the granular membrane surrounded this, even protruding through the opening. Under the microscope a fragment of this membrane exhibited its usual appearance of little hexagons arranged like mosaic work. I called the attention of Drs. R. Motte and Hunt to this membrane, who were present when I examined it. Cutting through the vesicle, I found its large cavity filled with the clotted blood which is the immediate cause of its rupture, and removing this coagulum, the inner tunic displayed great vascularity, its vessels ramifying over its surface like the artery on the retina. This membrane was not yet folding to constitute the corpus luteum.

To those acquainted with the subject, it will be plain that rupture had recently occurred, and consequently that the ovum had not long escaped. I therefore diligently searched for the egg, knowing that if dis-

covered, this would be the only case of the kind recorded. I was not fortunate in the attempt; the egg was in the tubes, but these were so corrugated (a condition in which all the other organs of like structure participated as perhaps the result of strangulation), that it was impossible to open them. The surface of the uterus was then carefully inspected with a strong lens, but nothing was discovered. The mucous membrane was not hypertrophied, neither were the uterine crypts nor glands visible as I have seen them during this period. I therefore conclude from this point, associated with the fact of the congestion being greatest at the entrance of the tubes, that menstruation had just commenced, and finally that this excitement commences in the ovaries, passes next to the tubes, and then encroaches upon the surface of the uterus. This last remark perhaps is worthy of notice, as I believe it has never been expressed.—*American Journal of Medical Sciences.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Pathology, Treatment, and Prevention of Cholera. By George Fife, M.D.

Die Gegenwart Eine encyclopädische Darstellung der neuesten Zeitgeschichte für alle Stände. 27tes Heftes.

A Dictionary of Practical Medicine. Part XIV. By James Copland, M.D. F.R.S. —"Rabies" to "Scirrhous Tumours."

Proceedings of the Westminster Medical Society. Session 1848-9, No. 3.

La Presse Médicale. No. 33.

Directions for the Management of Cholera in the Absence of Medical Advice. By H. M'Cormac, M.D. Belfast.

The Physiology of Digestion and Principles of Dietetics. By Andrew Combe, M.D. 9th edition.

Cholera: its Causes, Symptoms, and Treatment. By J. P. Batchelder, M.D. of New York City.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Aug. 11.

Births.	Deaths.	*Av. of 5 Sum.*
Males.... 621	Males.... 948	Males.... 513
Females.. 638	Females.. 961	Females.. 495
1259	1909	1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1909	1008
Specified Causes	1903	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	1182	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	42	36
3. Brain, Spinal Marrow, Nerves, and Senses	118	115
4. Heart and Bloodvessels	26	38
5 Lungs and organs of Respiration	102	81
6. Stomach, Liver, &c.	74	68
7. Diseases of the Kidneys, &c.	15	8
8. Childbirth, Diseases of Uterus, &c.	7	11
9. Rheumatism, Diseases of Bones, Joints, &c.	9	6
10. Skin	0	1
11. Old Age	39	32
12. Sudden Deaths	8	8
13. Violence, Privation, Cold, &c.	33	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	4	Convulsions	43
Measles	21	Bronchitis	34
Scarlatina	21	Pneumonia	45
Hooping-cough	45	Phthisis	127
Diarrhœa	173	Lungs	7
Cholera	823	Teething	6
Typhus	54	Stomach	12
Dropsy	12	Liver	17
Hydrocephalus	24		
Apoplexy	17	Childbirth	2
Paralysis	22	Uterus	3

Remarks.—The total number of deaths was 901 *above* the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·76
" " " Thermometer[a] ..... 66·4
Self-registering do.[b] .... Max. 104·5 Min. 40°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·24 – Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.°8 *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

The communications of Drs. Griffiths, Jones, and Bulteel, as well as Mr. Newham's report from the Chichester Infirmary, will be inserted in the following number.

We are obliged to Dr. G. Fife for a copy of his pamphlet on the Pathology and Treatment of Cholera.—At present the attention of all professional men should be directed to a candid record of the *results* of treatment, irrespective of all theory.

A report of the trial of Wood for poisoning a person with Lobelia Inflata will appear next week.

The Report of the Meeting of the Poor Law Convention is unavoidably postponed.

Mr. B. Gillard (?), Leeds.—The order was duly received and forwarded to the office. Inquiry shall be made.

Dr. Pearson and Mr. Curtis are referred to a notice above. Their report of the case shall appear in a subsequent number.

Received.—Mr. Crouch's case of Ovariotomy. —Mr. E. Robbs's Contributions to Pathology. —The "Carlisle Journal."

Corrigendum.—In Mr. Lonsdale's paper, last No., page 244, col. 1, 15 lines from bottom, for "namely, the tibia and fibula," read "tibia and *femur*."

Royal Medical Society

Lectures.

CLINICAL LECTURE ON FRACTURES OF THE BASE OF THE SKULL.

By John Adams, Esq.
Surgeon to the London Hospital.

William Vincent, carman, aged 27, was admitted into the London Hospital, under the care of Mr. Adams, April 2d, at 6 P.M. While shifting some blocks of timber in his cart one of them slipped, and by some means squeezed his head against the others. He was taken up quite insensible, and had hæmorrhage from both ears. He was, however, sensible when admitted; skin cold; shivering; pulse weak; tongue dry, and converging strabismus, especially of the left globe; the pupils were contracted, the right less than the left, but both sensible to light: his head was shaved immediately, but there was no evidence of depression on either side; there was a great tendency to sleep, pulling the clothes over him. At 9 P.M., his pulse being full and labouring, 68, pupils contracted, very drowsy, hæmorrhage from the ears still continuing, he was bled to ℥xviij.; after which the strabismus appeared to be less; the pulse became quicker, less laboured and softer; and vomiting took place directly. —Hyd. Chl. gr. x. st. et rep. gr. ij. 4tis horis. Lotio Sp. Capiti. Milk diet.

Half-past 12.—Pulse 90, full and hard; appears more sensible; pupils still contracted.

3d, 10 A.M.—Slept during the night; pulse full and hard (108); tongue dry; skin hot and dry; complains of pain in the head, about the right temporal region; bowels unrelieved. To take Haust. Domest. ℥iss. and V. S. ad ℥xij. At 1 P.M. was seen by Mr. Adams: the bowels not being yet open, was ordered Ol. Croton. gt. j.; after which he was very sick: it appears, however, that a quarter of an hour previously to the administration of the croton oil the bowels had been open, and were acted on three or four times in the course of the evening.

6 P.M.—The patient expresses himself much better; the drowsiness is relieved; pulse 96, full and soft; skin moist and cool; tongue not so dry as yesterday: to continue the calomel.

4th.—Slept pretty well; pulse 96, full and soft; skin moist and cool; gums affected by the mercury—to take it only night and morning: was comfortable all day, and in the evening sat up in bed, which was instantly forbidden; the bowels have been relieved twice to-day.

5th.—Has had a good night; complains of pain in his gums and jaws; is the same in other respects: he was ordered to leave off the calomel.

9 P.M.—Does not appear so well, and talks much thicker; the sublingual glands much enlarged; pulse fuller and stronger; bowels not open since 6 P.M. yesterday: to take Haust. Domest. ℥ij. statim, which acted freely at half-past 11: after this he was much better; pulse 84, full and hard: mouth drawn to the right side: the tongue, when pushed out, is turned towards the left.

6th.—The bowels open three times in the night and twice this morning; mouth and tongue as yesterday; skin hot and dry; pulse 92, and full; tongue moist; sublingual glands much swollen.—Appl. Hirud. vj. to submaxillary region.

7th.—Slept well; glands less painful; the mouth continues drawn to one side; complains of numbness behind both ears; skin moist and warm; pulse 98, full, and rather hard; right pupil more dilated than the left; bowels not open since 12 at noon yesterday.—To have Garg. Chlorid. Calcis.

8th.—Slept well; skin moist and warm; pulse 82, full; tongue moist. 10 P.M.—Bowels not yet open. — To take Haust. Domest. ℥iss. statim.

9th.—Slept well; skin moist; pulse 82, full and hard; mouth still drawn to the right side; numbness behind the right ear only; bowels not yet open.—Rep. Haust. Domest. ℥iss. st., et rep. 4tis horis. The bowels were well relieved after this.

10th.—Not slept well; mouth not drawn so much to one side; tongue moist; mouth less sore; pulse 72, and full; complains of pain and fulness in the ears, but otherwise comfortable; appetite improving; bowels open.

11th.—Much better in all respects, except the paralysis.

12th.—Slept well; bowels open.

13th.—Continues to improve.—Was ordered rice-pudding.

17th.—Strabismus; and paralysis of one side of the face still continues.—Was ordered Emp. Lyttæ behind the left ear, to be dressed with Sabine ointment.

20th.—Ordered Pil. Hyd. gr.v. alt. nocte.

21st.—Seems to improve; appetite getting better: was ordered extra bread, and on the 24th middle diet with milk; has been up for the last ten days.

June 1.—The man left the hospital when gradually recovering, a slight amelioration having taken place in his paralysis; the strabismus having disappeared.

Gentlemen,—In a previous lecture I al-

luded to the difficulty of forming a diagnosis of fracture of the base of the skull, and made the observation that the positive signs of this injury are few, and that the only certain indication of this accident, if we except the escape of cerebral matter from the ear, consists in the discharge of a large quantity of serum by the ear or nose from the arachnoid cavity. Now the case before us affords strong presumptive evidence that the base of the skull has been fractured: thus you observe that the accident was accompanied by hæmorrhage from the ears, and this has been succeeded by paralysis of the left portio dura. You will remark that the paralysis still continues; but I am inclined to think there is some amendment in the symptoms, and I have strong hopes that the functions of the nerve will be restored. The case is valuable to us, not merely in a surgical point of view, but as anatomists and physiologists, and is one of those accidental experiments which throw light upon the uses of the nerves.

Let us now endeavour to analyse the symptoms in this point of view; and, first, let me recal to your memory the idea of Sir Charles Bell, that this nerve (the portio dura) is the nerve of the respiratory movements of the muscles of the face,—an idea which is now discarded, the common opinion being that the portio dura is little more than the true motor nerve of the facial muscles.

In this man you perceive that the face is drawn to the right side, the left side hanging loose and pendulous: this of course obviously depends on the continued action of the muscles of the right side, by which the face is drawn to that side, the natural antagonism of the other side being destroyed by the paralysis of the muscles. Next you remark, that when the man is told to blow, the left side of the mouth takes on a sort of flapping movement, instead of the pursing which is natural to this action. You also remark that when directed to close his eyes, the right alone is shut, the cornea of the left eye being rolled upwards and inwards, so that the transparent part of the eye is placed beyond the influence of the light; and this latter movement you are aware is quite natural, and is always perceptible if the eyelids be raised during natural sleep, or when a patient is under the influence of opium. Thus you perceive that these circumstances and others combine to prove that the muscles of the left side of the face are paralysed; and that this paralysis depends on injury of the portio dura cannot be disputed. Whether that injury be at the root of the nerve, or in that part of it which is traversing Fallopius' aqueduct, I cannot say, but I am strongly of opinion that the mischief is in the latter situation from circumstances previously mentioned in the history of the case. We may take advantage of this case to consider the movements of the eye to which I have alluded.

You perceive that there is now nothing abnormal in this case in the motion of the eye: and hence we infer the integrity of the muscles of the orbit. The rolling upwards and inwards of the eye has been attributed to the action of the oblique muscles; but I cannot see how the superior oblique muscle can have any thing to do with it: it always appears to me that the action of that muscle is first to sling the eye, and secondly, to counteract the recti muscles. The inferior oblique most certainly has the effect alluded to; but the same action can be accomplished by the combined influence of the superior and internal rectus, both of which are supplied by the same nerve as the inferior oblique—namely, the third pair. In the case before us it is mentioned that there was converging strabismus, with contracted pupil; and this was particularly remarkable on the left side. This is a condition admitting of ready explanation on anatomical grounds: it is clearly dependent on the preponderating influence of the internal rectus: for, supposing that, in the general concussion, the muscles of the globe were partially paralysed, the internal rectus being the strongest of all would naturally draw the eye inwards; and as to the contracted pupil, it is well known that the pupil usually contracts when the slightest convergence is produced, as in the examination of a minute object by a close application of the eye.

Now, as to the treatment pursued in this case, there is not much to be said. The case was treated on those general principles which are commonly adopted in injury of the skull and its contents, and on which I need not dwell; and there is ground for hope that eventually recovery will take place.

DETECTION OF CHLOROFORM IN THE BLOOD.

This is effected by the conversion of chloroform, at a red heat, into chlorine and hydrochloric acid. Place the blood in a sand-bath, pass the resulting vapour through a tube heated in the centre to a red heat, and lined at its extremity with a paste of iodide of potassium and starch, its open end being also covered with paper moistened with the same mixture. If chloroform be present the paper will be tinged blue. By this means one part in ten thousand may be detected.—*Journal de Chimie Médicale*, Mars, 1849.

X

Original Communications.

CASE OF AMPUTATION AT THE SHOULDER-JOINT FOLLOWED BY TETANUS.

Extracted from the Medical Report of Dr. GRAHAM, Surgeon of H.M.S. Bellerophon.

MARK COX, A.B., ætat. 28, a man of low stature, but well formed, dark complexion, and excellent habit of body, whilst engaged in the operation of loading his gun at general quarters, sustained severe injuries from its accidental explosion, shattering the right hand, more particularly the carpal bones sustaining the thumb and index finger, dislocating the ulna and radius upwards and backwards, behind and upon the humerus, completely severing and tearing up from their attachments the biceps and brachialis anticus muscles, tearing across the anterior fold of the axilla; severely scorching, and indeed burning, forearm, arm, neck, side of face and head, materially injuring also the eye of that side. The trunk, extending from shoulder to the ilio-femoral articulation, was severely contused, and subsequently ecchymosed; and his jacket, shirt, and neckcloth were completely destroyed by the fire. When brought down to the cockpit he was moaning, and evidently suffering much, and perfectly blackened all over by the explosion: a quantity of the grains of coarse powder non-ignited had been driven into both arm and forearm, from which in consequence there was a trifling hæmorrhage. In the first instance, I had the remainder of the burnt hair removed from his head, and, so far as practicable, his person cleansed, giving him at the same time occasionally a little wine; on putting him into a cot, the collapse and nervous prostration were found so threatening, that I deemed it advisable to exhibit a bolus, composed of Sesquicarbonate of Ammonia, Aromatic Confection, and a few minims of Tincture of Opium. The next distressing symptom was extreme irritability of stomach, vomiting, with cold extremities, little or no pulse, and increasing prostration. As the stomach refused to retain anything whatever, we had recourse to hot epithems applied to the epigastrium, legs, feet, &c.; the injured arm was rolled in flannel; and on the subsidence of the vomiting we repeated the stimulating bolus, which then became useful. His condition next day was not altogether so bad: feet and lower extremities were warm; pulse was rapid and feeble; stomach tolerably quiet; left arm warmer than the previous day, but the injured one, notwithstanding the envelope of flannel, assisted by hot water in bottles assiduously employed, was almost icy cold, more particularly the hand. From the forearm some trifling hæmorrhage distilled, giving some, though small, hope of its vitality. The moral and physical condition of the patient were alike in an extreme degree discouraging and disheartening: the powers of life almost extinguished, and the mental despondency extreme; this last feature, however, soon disappeared, and a most cheering confidence on the part of the patient appeared in its place: our efforts were for the first few days entirely directed towards sustaining the vital powers; for which purpose we employed, locally and generally, cordials and stimulants.

We had the happiness to witness the perfect success of our endeavours; but in the meantime the local mischief went on, and traumatic gangrene became developed. At this time the condition of the patient was as follows:—mind more tranquil; circulation restored to something approaching its former state; some rest during the night, owing in some degree certainly to the exhibition of an opiate; an ability to take a little nourishment; bowels moving with aid of laxative enemata, and occasionally doses of Ol. Ricini; tongue becoming moist and clean; respiration perfectly free and natural; no pain, tenderness, or uneasy sensation of any kind in the abdomen; hand clear and devoid of uneasiness, with the exception of that arising from the burnt condition of neck and face, and some distress from eye of same side; less disposition to complain, and a cheering and encouraging confidence exhibited by him, as to his future recovery. The local condition of the injured parts as follows:—hand, forearm, upper arms, black, cold, and extremely

fetid; cuticle separated in many parts, and a most offensive moist exhalation on the surface; the sphacelus had extended by this time (about the fifth or sixth day) to nearly as high as the humeral attachment of deltoid muscle: over hand, fore and upper arms, was sprinkled thickly an absorbent powder, composed of Cinchona, Carbon, Creta preparata, Quinine and Camphor, which effectually corrected the overpowering fœtor of the parts. Shoulder, fore part of thorax, side of neck, posterior aspect of shoulder corresponding to scapula, axilla, and side of trunk, enormously swollen, ecchymosed, hot, and in some parts emphysematous, with, about the seventh day, a very obscure and deep-seated sense of fluctuation. With a view to relieve these symptoms, and render the parts somewhat more favourable for the performance of an operation, I had made between twelve and twenty incisions into the parts, giving immediate exit to a vast quantity of offensive gas, bloody serum, &c., thereby reducing the general swelling, tension, and engorgement of the parts, to which in addition I applied a warm moist embrocation, which afforded great relief. Believing now (the seventh day) that I might venture to remove the limb, and fearing that typhoid symptoms, with delirium, &c., might carry off my patient, I sought and obtained the kind and willing assistance of Dr. Charles Acland, Surgeon of the first class French line of battle ship "Inflexible," and of Mr. R. Douglas, Surgeon of H.M.S. "Vanguard:" on consultation, it was deemed advisable to wait a day or two longer, to allow some further subsidence of the huge swelling about the shoulder; and on the ninth day, observing some vesications forming on the several integuments, I sent for those gentlemen again, having made up my mind as to the immediate necessity of avoiding all further delay. On their arrival I performed the usual operation by the deltoid flap: on making the first incision, when the knife had reached the anterior horn of the crescent, there was an impetuous gush of air, mixed with a vast quantity of purulent matter, which had been clearly very deeply seated, and principally beneath the pectoral muscles. On examining the flap it was found necessary to remove several portions of degenerated soft parts, including some glands in a diseased condition; one artery of small size sprung also, but was at once controlled by Dr. William Fasken, my senior assistant. It was only thought necessary subsequently to tie the axillary itself: the patient bore the operation heroically, and the pulse sustained its tranquillity and body throughout. The patient was placed in his bed in a most satisfactory condition. The flaps were brought together by means of the interrupted bloody suture. It was necessary to make one or two very deep incisions to facilitate the escape of matter, or rather to prevent its lodgement: a little wine was occasionally required during the operation. The remainder of that day, and indeed for four days subsequently, nothing could have been more gratifying than his progress: he slept fairly, with the assistance of a gentle sedative. Tongue was clean and moist; appetite good; bowels regular; and with the exception of some uneasiness from the burnt condition of neck, spirits cheerful: the stump was dressed most carefully each morning; all suppuration perfectly avoided, and the extreme points of the flaps had coalesced. On the morning of the fourth day, the weather, which had been heavy and threatening, became rather worse, atmosphere charged with electric fluid; the patient then, for the first time, began to complain that he could not take his breakfast, the lower jaw being very stiff and painful. On looking at him I at once saw from the expression of his countenance that "trismus" was present; but as there was no apparent tendency to general spasm, I was not seriously alarmed: I ordered immediately a warm stimulating terebinthinate enema, which evacuated the contents of the large intestines voluminously, thus giving further hope; the jaw, however, did not relax: I then allowed him the liberal use of tobacco smoked in the usual way, which he relished much, and the jaw became (at least I hoped so) a little less firmly locked. At about 4 P.M. of that day, whilst Dr. Fasken was endeavouring to get him to swallow a little arrow-root, he had the first general spasmodic accession. We now threw up per anum strong terebinthinate enemata, rubbed in over the epigastrium the Ol. Crotonis Tiglii, and in fact exhausted every means, such as continued friction

with strong stimulating and mercurial liniments along the spinal column, repeated enemata with turpentine and tobacco, all to no purpose: spasm succeeded spasm, and I lost my patient at 2 A.M. on the fifth day succeeding the operation.

PROPOSITIONS RELATIVE TO THE STRUCTURE AND DEVELOPMENT OF THE LIVER IN VERTEBRATE ANIMALS.

By C. Handfield Jones, M.B. Cantab.
Fellow of the College of Physicians.

1. The liver in almost all vertebrate animals is a solid parenchymatous organ, presenting no external resemblance to the tubular or follicular type of hepatic structure so common amongst the invertebrata.

2. In the pig, and perhaps in some other animals, the liver is divided by complete fissures into separate lobules, the adjacent walls of which are smooth, and lined by prolongations of Glisson's capsule. In the three lower vertebrate classes the lobules are not at all, or but imperfectly, marked out by the course of vessels only, no fissures existing. In man, and in most mammalia, adjacent lobules blend with each other by continuity of tissue, both the capillary network and the cells of one lobule passing into those of the next, except at the level where the interlobular fissure exists.

3. The mass of the liver principally consists of nucleated cells, which are arranged more or less regularly in branching series radiating towards the periphery of each lobule from the interlobular vein in its axis. This disposition, however, is often entirely lost.

4. The hepatic cells contain very commonly oil drops, and, in states of congestion, distinct yellow particles, but are often merely of a dull, whitish, granular aspect, even after treatment with nitric acid.

5. A large quantity of *free* oily matter is often present in the liver, and seems to indicate that the secretion of the cells has accumulated without being removed.

6. The hepatic cells are often very imperfectly formed, the parenchyma consisting solely of nuclei and diffused oily and granular matter.

7. The condition of the marginal cells of the lobules is often very peculiar, being crowded with globules of secretion, so as to give the borders of the fissures an opaque dark aspect: when this is the case, the investing fibro-homogeneous membrane (an expansion of Glisson's capsule) very frequently disappears, and the side of the lobule is covered with irregularly projecting cells and oil-drops, which seem to be escaping into the fissure.

8. The arrangement of the vessels is well known: a dense plexus of capacious capillaries intervenes between the inter- and intra-lobular veins, constituting, together with the cells, the entire mass of the lobules; the branches of the hepatic artery having distributed to the larger ducts a most rich vascular supply, become very minute, and form in the fissure a rather scanty net-work, the vessels of which terminate directly in the lobular plexus.

9. The size of the hepatic duct, in relation to that of the organ to which it forms the excreting channel, is very small. This seems to imply some essential difference in construction between this and other glands.

10. The larger branches of the hepatic duct are provided with a columnar epithelium resting on basement membrane; in the ultimate twigs, the basement membrane disappears, and the epithelial particles are reduced to mere nuclei set close together in a subgranular based substance. These ducts lie in contact with the sides of the lobules, but do not penetrate their mass, nor run apparently through all the length of the fissures.

11. The ducts, therefore, lie simply in a relation of contiguity to the cells of the lobules, and do not in any way contain or envelope them in terminal expansions.

12. The hepatic cells, therefore, do not constitute an epithelium; they are not thrown off as the cells of the kidney and other glands, but remain *in situ*, and are to a certain extent permanent.

13. It is possible, though not proved, that a slow process of transmission occurs in the rows of hepatic cells, the secretion being passed on from one to another till it arrives in those of the periphery.

14. The lobular arrangement is non-essential; the simplest idea of the structure of the vertebrate liver being that presented in fishes, where the ducts run through the parenchyma, and are on every side encrusted by it, and bathed in its secretion.

15. The portal vein is distributed to the parenchyma, *i. e.* the lobules, the cells of which probably take up from the blood returning from the absorbing intestinal surface saccharine and amylaceous matters, which are at the time in excess in the circulating current. These are stored up in the cells for a longer or shorter period, converted more or less completely into biliary and oily matters, and again returned to the blood, to be employed in the service of respiration.

16. The ultimate ducts lie bathed in the secretion of the marginal cells of the lobules, from which principally—as the supply they derive from the hepatic artery is very scanty—they elaborate fully-formed bile. This seems to be the only view that will explain the circumstance, that in the human fatty liver, and in the oil-gorged liver of fishes, deep green bile of healthy appearance is often found in the gall-bladder.

17. The nerves, sympathetic bands, containing cerebro-spinal tubules, run in the canals and fissures, but do not enter the lobule. The coats of the portal vein and hepatic artery are richly supplied; those of the hepatic vein less so.

18. The lymphatic vessels do not seem to penetrate the lobules: they are, I believe, confined to the portal canals and fissures.

19. The liver originates in the chick as an independent growth from the germinal membrane, and is not derived from the intestine. A process of the intestine is early developed, which tends toward the liver, but does not ramify in it: this subsequently wastes away, and is replaced by the real hepatic and cystic ducts, which develope themselves gradually from the hilus of the liver downwards, and at length open into the intestine *at the exact point where the original offset from the intestine existed.* This process is completed about the fourteenth day.

August 6th, 1849.

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.
Translator of Cazenave's Manual of Diseases of the Skin.

[Continued from last vol. page 936.]

No. VI.

PUSTULAR ERUPTIONS.

Acne Punctata, and Acne Rosacea or Copper Nose.

There is no disease within the whole range of cutaneous pathology more repulsive, and more difficult of management, with a view to a speedy cure, than *Acne*, occurring, as it does almost invariably, on the most exposed parts of the body—namely, the face and neck: it is an eruption of more than ordinary interest to the practitioner; not that it is dangerous, or even materially interferes with the healthy performance of the vital functions, but simply because it occurs on a region where it cannot be concealed, and causes great disfigurement. These circumstances, together with its obstinate and rebellious character, invest it with a degree of importance which would not perhaps attach to it if it occurred on any other region of the body. To females, especially, it is a source of absolute misery; and the amount of evil arising from the disease itself is insignificant, when compared with the mental anxiety and annoyance it occasions to this class of patients.

Acne is the result of chronic inflammation of the sebaceous glands, in which the hair follicles are more or less involved. The sebaceous matter becomes so inspissated that it cannot be discharged. It necessarily obstructs the follicle: inflammation of this follicle ensues, by which it is ultimately destroyed; a pimple is formed, and is soon followed by the formation of matter. Dr. Simon, of Berlin, alleges that the hair follicles alone are implicated in this disease, which is clearly a mistake both anatomically and pathologically. One of the leading characteristics of this malady is, the inspissated condition of the sebaceous matter. This abnormal altera-

tion takes place, not in the follicle by which the matter is discharged, but in the gland where it is secreted; and when we bear in mind the intimate association that exists between the hair follicles and sebaceous glands, it is not difficult to see that inflammation of the latter must necessarily involve the former, more or less: that the lesion originates in the sebaceous glands, and is subsequently extended to the follicles—both being invariably involved—is a position, I believe, which is now fully established. Biett and Cazenave have supported this view in both their oral and written discourse on Cutaneous Pathology. Mr. Wilson rejects the theory of Dr. Simon; and I perfectly agree with him in thinking that it is radically wrong. The German professor also states that acne is occasionally produced by an insect which he discovered in the hair follicles, and has named *acarus folliculorum*. But as this insect is to be found in healthy as well as in diseased follicles, no positive inference can be drawn from the mere fact of its existence.

To the disease under consideration belong all those eruptions of the face, characterized by pimples, with or without a red areola. The cuticular elevations are mingled with black spots, and are sometimes accompanied by a hypertrophied condition of the skin; they vary considerably in volume as well as in degree of prominence. They frequently leave indelible cicatrices in the skin, and always disfigure the face considerably. Acne occurs most frequently on the temples, cheek, nose, forehead, and on the neck and chest, back and shoulders. When it appears on the last mentioned parts it seldom attacks the face; and, on the other hand, when the eruption appears on the face, the back and chest are rarely attacked. Both sexes are subject to this affection; and it is much more severe and difficult to manage in young subjects than in those of more advanced years.

There are several varieties of acne resulting from a variation in degree of its pathological element. For, example: the disease may originate in follicular inflammation, or it may assume from the first simply a pustular appearance. Again: it may be the result of hypersecretion of the follicular glands, without inflammation, in the event of which the follicles become enlarged, the sebaceous fluid thickens, turns black, and forms those dark spots which are seen scattered on the face. It is only when the inflammation extends to the cellular tissue that the disease assumes that hypertrophied appearance which has been mistaken for its elementary character, and has given rise to the error of classing it amongst the *tubercular* eruptions. Biett used to describe in his history four varieties of this disease—namely, acne simplex, acne sebacea, acne punctata, and acne rosacea; but I shall confine my remarks just now to the two latter.

Acne punctata derives its name and character from a small black spot which may be seen on the summit of each pimple. The indurated deposit is the result of follicular hypersecretion, and the characteristic black spots are simply the effects of exposure of the sebaceous matter at the mouth of the follicles to the carbonaceous matter contained in the atmosphere. These discolorations are most numerous on the cheeks, especially on the alæ of the nose, and can be felt by passing the finger gently ever the parts. It was in the black indurations that M. Simon announced the existence of the parasites referred to above; but the severest form of the disease is

Acne rosacea — the *couperose* of French writers. This variety differs in its anatomical element from the preceding, inasmuch as the disease involves clusters of follicles instead of individual ones, and at a later stage depôts of matter occupy the place of these disorganized follicles. Acne rosacea occurs most frequently in persons of mature years, whereas the simple punctata are commonly met with in youth, especially in females, producing great disfiguration of the face. It usually appears in the form of a number of red spots on the nose and cheeks: these spots are accompanied by a sensation of heat and tension, which gradually increases under the influence of certain kinds of food of high temperature, and of vinous and spirituous drinks. Pustules soon form at the summits of the morbid eminences. The parts affected become the seat of a kind of chronic inflammation; the skin is swollen and injected, and assumes a violet tint; the superficial

veins are often dilated and varicose, and when all those morbid alterations are present at the same time they give the countenance an extremely disagreeable and repulsive appearance. The disease may assume a still severer form than this: in the event of which the inflammation extends more deeply into the cutaneous structure; the pimples are more numerous; the pustules are frequently renewed; the process of suppuration is imperfectly performed, and the prolonged inflammatory action produces a degree of induration in the sebaceous follicles, forming true cutaneous tubercles. The cellular tissue now becomes involved, and the variety called *acne indurata* is the result.

Causes.—The causes of this eruption are various, and depend very much on the period of life at which it occurs, on certain peculiarities of constitution, as well as on the general state of health. For example, *acne punctata* almost invariably attacks young and healthy persons; whilst *acne rosacea* in the vast majority of cases attacks individuals advanced in years—more especially females at the critical period. As a general rule, acne occurs in females more frequently than in males; and this peculiarity is intimately associated with the condition of the uterine function. The simple form of the eruption frequently attacks young girls at the period of the first menstruation; whereas, as already stated, the severest variety—acne rosacea—is usually met with in women at the turn of life. Besides, when the menses are suppressed between these periods, or materially deranged, one or other of the varieties of acne is almost certain of making its appearance. Acne rosacea may also depend on other causes; as, for example, gastric or hepatic disorder, high living, violent mental emotion, the use of cosmetics or irritating lotions, &c. It is sometimes hereditary. It is worthy of remark, that when acne occurs in youth, it generally appears in individuals of sanguineous temperament, whilst it commonly attacks persons of a bilious habit of body when it occurs later in life. Some persons are predisposed to the disease from certain peculiarities in the original formation of the skin, and the size and disposition of the follicles about the face, especially the variety called rosacea. In such cases disorder of the chylopoietic viscera, or of the uterine functions, will be sure to bring on an attack of acne.

Treatment.—The first points to be inquired into before commencing the treatment of acne, are the state of the functions, and the general condition of the system. Acne being a mixed disease, depending partly on local peculiarity in the original formation of the skin, and partly on the functional disturbance, it is obvious that unless we take into account at the commencement the etiology of the complaint, we cannot possibly lay down a rational method of cure. An exclusively local treatment would be as unavailing as empirical; and to confine ourselves to constitutional remedies alone would be equally irrational and erroneous. The application of those general symptoms referred to in the introductory remarks is specially indicated in the treatment of acne; and it is only by a due consideration of them that an effective method of cure can be prescribed.

12, Half Moon Street,
August, 1849.

ON THE FÆCES, THE CAUSE OF THEIR ODOUR, &c.

By J. W. Griffith, M.D.

Member of the Royal College of Physicians of London, and Physician to the Finsbury Dispensary.

I am not aware of any rational explanation having been proposed, nor any probable hypothesis formed, which would account for the odour of the fæces.

In investigating this question, the first point which suggests itself is, whether or not it is attributable to the decomposition of the undigested remains of the various articles of food in the intestinal canal. Undoubtedly not. The acid gastric juice, as is well known, exerts a remarkable action upon articles of food, which prevents their undergoing the changes experienced by such matters under ordinary circumstances. This influence, however, ceases, or almost entirely so, after the chyme has lost its acid properties, and become united with the bile. But no such odour is evolved from articles of food, either mixed with the secretions of the stomach or bowels, or when ex-

posed alone to conditions favourable to putrefaction. Under these circumstances the odour is putrefactive, but totally different from that of the fæces. Liebig states that he has found a method of producing a similar odour; but the circumstances under which it is obtained probably never occur in the human body.

This odour is not always present in the same intensity, nor is it always of exactly the same kind: in natural fæces, it is comparatively slight; but when the intestines contain an unusual quantity of fluids, which greatly favour petrefactive decomposition, it is developed in unusual intensity. It is well known that the use of aperient medicines renders the fæces much more offensive; if the intestines have been previously inactive for some time the odour is then intensely disagreeable. After the continued use of aperients this odour becomes diminished to a great extent, in consequence of the intestinal contents having been hurried on. Hence it might be imagined to depend upon putrefaction, since when those conditions which most favour this process are present, the peculiar odour is in the greatest intensity. The fact, also, of the odour being more distinct and powerful as the fæces are examined nearer to the anal extremity of the intestinal tube, tends to support this view. The practical physician will recollect again that this odour is not present in the fæces in cases where no bile is poured into the intestines, as in most cases of icterus, &c. Hence the presence of the bile appears absolutely requisite for its production. It was the remarkable resemblance of the odour of putrid bile to that of the fæces, particularly under the conditions which I have mentioned as being most favourable to its development in the latter, that first drew my attention to this point. The absence of this odour when the bile is absent confirms my view. It is therefore extremely probable that this odour arises from the putrefactive decomposition of the bile, or at least a part of it, in its progress through the alimentary canal.

The next question is, What part of the bile is decomposed? Is it the electro-negative or true biliary constituents, the colouring matter, or the mucus of the gall-bladder? It can only arise from the former, for the odour evolved by decomposing biliary mucus and colouring matter is very similar to that of putrid flesh, but quite different from that of the fæces.

I have not yet detected any of the products of the decomposition of the bile in the fæces, for the chemistry of the healthy fluid appears at present in so unsettled a state that we can hardly determine what might be expected to occur, and the task is one of no ordinary difficulty. That some biliary products exist in the fæces was shown years ago by Berzelius.

I cannot refrain here from remarking that in the majority of cases in which the vomiting of bile or green fluid occurs, there can be no doubt that the mere presence of the bile or its colouring matter is no sign of the existence of derangement of the function of the liver, as is almost universally believed to be the case. It must have been noticed by every person of ordinary observation, that it is rare to find patients vomit repeatedly, from whatever cause, without finding bile apparently present in the vomited fluid. This arises from a mere mechanical cause, and is found in sea-sickness, vomiting from the effect of poisons, disease of the brain, &c. In the majority of cases which are commonly, and in my opinion erroneously, termed bilious cases, the irritating cause lies in derangement of the functions of the stomach: these are generally accompanied with anorexia: hence accumulation of bile in the gall-bladder occurs, and the spasmodic action of the abdominal muscles forces it out of that organ. I also regard the common view that unusual fœtor of the fæces is dependent upon a morbid state of the bile, as totally erroneous. It is found in all cases where the intestines contain more fluid than usual, whereby the deposition of the bile is much favoured, especially when the fæces are, or have been, retained within the intestines for any length of time: no resemblance to these fœtid evacuations can be detected in the upper part of the intestinal tube, nor in the contents of the gall-bladder, on post-mortem examinations.

These notes were written two or three years ago, but I was prevented from publishing them by finding, on reviewing the opinions of physiologists upon the question, that M. Valentin, in his "Lehrbuch," had attributed the odour

of the fæces to the same cause as myself. But as I have neither found any notice of this fact, nor of the view stated, I have thought it worth while to present these considerations to the notice of the profession.

9, St. John's Square,
Aug. 3, 1849.

SOME OBSERVATIONS ON THE

NATURE OF CHOLERA.

By Robert Dick, M.D.

I have somewhere seen the remark, that a *wrong* theory is better than *no* theory; and in some respects, at least, the observation must be allowed to be true. A theory, false or true, indicates to inquirers a definite course of investigation; a definite principle to be illustrated; a definite result to be looked for. If the theory be just, these important expectations will be, of course, realized, and ends more or less great will be gained. If the theory be false, this good will at least have been attained, that something has been *proved* to be wrong, and therefore, by so much, the chances of future error are diminished.

It is on the grounds now stated that the writer, amid so many more competent observers and speculators, ventures to submit his very humble and simple suggestions, which, after all, point to nothing precise or satisfactory.

It seems to me that (as some at least do) to view the muco-intestinal evacuations as forming essentially part of the disease, and as a principal object of treatment, is a striking illustration of the crude state of the medical art, and the want of philosophy among us. These evacuations appear to me to be almost wholly an *effect*, and, as nearly as possible, of a mechanical nature; and although, from the rapid manner in which the vascular system is drained by them, they demand attention, yet that they have little more connexion with the disease which they result from, than the nasal hæmorrhage in epistaxis has with the causes producing it.

It seems probable to the writer that the cause of cholera is the presence in the atmosphere of some morbific agent, by which the oxidation of the carbon in the blood is prevented, and the animal function presiding over this process suddenly paralyzed. The rapid and remarkable fall of the animal temperature, supposed to be dependent on the function and process now named, seems to prove this; and assuming this to be the primary lesion, those that follow are accounted for, at least to a considerable extent,—such as the coldness and blueness of the surface of the body: the evacuations are also accounted for. We find that when one function or organ is suspended or diseased, there is an instant attempt by nature to supply the interrupted action by preternatural activity in some healthy organ. Now, cutaneous and pulmonary transpiration requiring a certain, and that a considerable degree of animal temperature to be carried on, and this being in cholera almost wholly suspended, the elimination of aqueous fluid from the blood is transferred to the intestinal mucous membrane, in which, from its central position, the fall of animal heat is not so prompt or complete as on the surface of the body.

I confess, however, there are two matters which this theory does not explain—1st, why the biliary secretion is suspended; 2nd, why the urinary is so. I acknowledge I can offer no conjecture as to the former of these difficulties, and must refer the doing so to any reader who, thinking the theory probable in other respects, will be at the trouble. In regard to the urinary secretion, I would surmise, that as the secretion is superintended and guarded by a complex organ, the kidney, with processes also complex, hence the aqueous part of the blood not being able to run off so quickly and easily by this channel as by the mucous membrane of the bowels, is consequently determined to take the latter route in preference.

On the above views, the treatment of cholera should consist in inspiring oxygen in more than atmospheric proportions—in hot external applications, and in restraining the evacuations—though not with any more idea of curing the disease than, when doing what we can to arrest pulmonary hæmorrhage from tubercles, we should suppose we were curing the latter.

Bentinck Street, Manchester Square,
August 1849.

CASE OF

NÆVUS IN AN INFANT REMOVED BY THE EXTERNAL APPLICATION OF A SOLUTION OF IODINE.

By J. O. Bulteel, M.D.
Plymouth.

Having been in the habit of using a solution of iodine as an external application, it occurred to me that it might be useful in removing nævus; and accordingly I tried it in the case of an infant. During the first three months I used the Tr. Iodin. Comp. of the present Pharmacopœia, under the use of which the morbid growth *gradually* diminished; but after three months' trial of that preparation, not thinking it active enough in its operation, I omitted the use of it, and applied Iodin. ℈j., Sp. Vin. Rect. ℥ss., and found that there was then a more rapid disappearance of the nævus. The preparation was applied freely once every day, not exciting the slightest constitutional derangement, and the disease every two or three days scaling itself, if I may use the expression, and thus disappearing *gradatim* till nothing more could be seen but two little spots of the size of a pin's head. The application at once arrests the growth of the nævus, and nothing but a regular daily application is needed for its final removal.

Should the above plan succeed in the hands of other practitioners, it will be a very manifest improvement on the present mode of treatment, either by ligature, caustic, or the knife.

Plymouth, August 10th, 1849.

*** Dr. Bulteel's suggestion is worthy of the attention of our readers, as the use of the knife or of the corrosive acids for the removal of nævi with broad bases is in many respects objectionable. We may remark, however, that a strong solution of iodine was recommended and employed some years since for the purpose of removing warts and corns. It often failed, because the tincture employed was probably not of sufficient strength.

MEDICAL GAZETTE.

FRIDAY, AUGUST 24, 1849.

In the Quarterly return of the mortality in England and Wales, recently issued by the Registrar-General, we find the following remarks respecting a disease which is now exciting universal attention:—

"Cholera is a disease well calculated to excite alarm by its wide, well-marked march over the world, the suddenness of its invasions, the sufferings it awakens, the fatality of its attacks, the helplessness of medicine, and the hopelessness of its victims. But it cannot be denied that the epidemic of cholera in 1832, aroused attention, and led the way to sanatory inquiries and ameliorations, which, however imperfect, have saved more lives than cholera destroyed. For cholera is a health inspector that speaks in language which nobody can misunderstand; it vists the prisoner in the hulk on the polluted river, the neglected lunatic in his cell, the crowded workhouse, the establishments for pauper children, the sides of stagnant sewers, the undrained city, the uncleansed street, the cellar, and the attic; as well as the fair open quarters which strangers frequent and admire. The oversights, the errors, the crimes of persons who in responsible offices have charge of the health and life of men, are proclaimed aloud by this inexorable voice.

"Registration did not exist in 1832; but it appears from the returns then made to the Board of Health, that in London 994 persons died of cholera in the part of the epidemic, extending from Feb. 14 to May 15, 1832; 4266 in the second part, extending from June 15 to October 31; and 15 in November and December. Allowing for defective returns in 1832, it is not probable that the fatality of cholera will be greater in 1849 than it was then; or that the danger will amount to more than this—that for a few weeks an inhabitant of London will incur the same chance of dying in one week as he usually incurs in two or three weeks. But it has been shown in the Annual

Registration Reports, that in ordinary times (1838-44) the chance of dying in London is constantly 40 per cent. greater than in the neighbouring counties. Taking the rates of mortality at each age for 1838-44, and the population of London for 1848, the deaths would be 53137 in the year; while at the rates which prevailed in Surrey, Kent, Sussex, Hampshire, and Berkshire, the deaths in London would be only 37910. Thus, quite independently of cholera, we have an excess of 15227 deaths yearly in London from known and not irremovable causes, that prevail to a certain but less extent in the south-eastern counties. The same argument applies to Liverpool and to all our large towns."

It is unfortunate that no correct record of the progress and mortality of this remarkable disease was kept in 1832. The returns were so imperfect, that the cases and deaths in London were either omitted altogether, or included with those which occurred in the country, and these were published with great irregularity. The medical statistician had at this time no Registration Act for his guidance. He was compelled either to resort to the weekly Bills of Mortality with all their imperfections, or to abandon the investigation.

In the MEDICAL GAZETTE of 1831-2, entries from official documents were published as frequently as they could be procured; and by a reference to them we have it in our power to instititute a comparison between the cholera of that period, and the disease which is now creating such alarm in the public mind. Some remarks on this subject were made in our last volume.*

We could then, however, only show that the cholera of the last three months of 1848, and the first month of 1849, had assumed in the metropolis a much milder form than in 1832. The periods of invasion were different in the two years. In 1832 the cholera did not show itself in London until the early part of February: it lasted *ten months*, and during that time there were, according to Dr. Copland, 11020 cases, and 5273 deaths. It acquired one maximum period of mortality in the first week of April, and the mortality then declined until the 19th May, when it reached a minimum. In June, July, and August, the deaths from this disease underwent a great increase. In our journal for July 12, 1832, occurs the following passage in relation to the state of health of the metropolis. Our readers will perceive that it is strikingly applicable to the present situation of London:—

"It would have been satisfactory to have been able to state that any mitigation had taken place in the malignity of the cases (of cholera) now occurring; but the very reverse is the case: the rate of mortality in cases of cholera with collapse, having recently risen from less than one in three to more than one in two. The disease is also more diffused than it was, but still a very great majority of the cases occur in the same localities as before: we may particularly mention Lambeth, Southwark, Bermondsey, and Whitechapel."*

At that time the weekly reports, so far as they related to the metropolis, were suppressed by the Government: hence the means of instituting a strictly correct comparison do not exist. In the number of this journal for July 14th, 1832, we find the following record of cases and deaths:—From June 24th to July 13th, 1832, a period of three weeks, there had occurred in Great Britain, exclusive of London, 2832 cases, and 616 deaths; and the total number of cases throughout Great Britain, inclusive of London, from October, 1831, to July, 1832,—a period of nine months,—amounted to 20,197,

* See page 285.

* MEDICAL GAZETTE, vol. x. p. 528.

and the deaths to 7929. After this date, the only lists to which we can refer for the metropolitan mortality from the disease are the weekly bills, the first of which was inserted in our journal for August 18, 1832. We subjoin a table of the deaths from cholera in the metropolis in the successive weeks:—

1832.	Deaths from Cholera.
Week ending Aug. 14	103
„ „ 21	116
„ „ 28	274
„ „ Sept. 4	157
„ „ 11	257
„ „ 18	154
„ „ 25	39
„ „ Oct. 2	73
„ „ 9	30
„ „ 16	67
„ „ 23	13

Although there can be no doubt that the total deaths are much underrated in this table, yet the figures may serve to show that the mortality from the disease began steadily to decline from the 28th August. Allowing for omitted returns, Mr. Babington, in a communication made to the Medical Gazette, estimated the deaths from cholera in London at 6459 in a population of 1,474,069. This amounts to about 4·5 deaths among a thousand persons, or rather less than one-half per cent.*

In directing our attention to the progress and mortality from the disease of 1848-9, we find that there are some points in which it bears a resemblance to the cholera of 1832. Up to the commencement of June 1849, the deaths from cholera had gradually decreased. In the last week in May only *nine* fatal cases were registered; and from October, 1848, until May 1849—a period of eight months—the cases and deaths had been, comparatively speaking, so few, that no public alarm had been excited. Early in June, however, as in 1832, the disease underwent a remarkable increase, and it has hitherto shown no tendency to decline, although the proportional increase in the weekly deaths has diminished. To place this matter in a clear light before our readers, we give the following table:—

1849.	Deaths from Cholera.
Week ending June 9	22
„ „ 16	42
„ „ 23	49
„ „ 30	124
„ „ July 7	152
„ „ 14	339
„ „ 21	678
„ „ 28	783
„ „ Aug. 4	926
„ „ 11	823

Hence it appears that in the short period of *six weeks* the disease has caused in the metropolis 3,938 deaths; and although in the later weeks the deaths have not increased in the same alarming ratio as in the earlier, yet it would appear that there is as yet no indication of our having reached the maximum mortality from the present epidemic. If it should follow the course of the cholera of 1832, it is probable that the weekly deaths from the disease will continue to increase until the end of the present month.

We cannot, therefore, concur in the arithmetical reasoning of the Registrar-General, that "it is not probable that the fatality of cholera will be greater in 1849 than it was in 1832." On the contrary, making every allowance for defective returns in 1832, increase of population since that time, the greater mortality of urban populations, and other circumstances which may affect the calculation, the probability in our judgment lies quite the other way. We grant that in the first period of 1848-9, the disease was comparatively milder than in 1832; but any hope

* Medical Gazette, vol. xi. p. 15.

founded on the continuance of this mild character, must have long since been dissipated from the minds of those who have examined the facts. The truth must be confessed that the cholera is just as intractable, and is far more fatal at the present time than in 1832. Nearly *four thousand deaths* have occurred within the short period of six weeks; and although this mortality is small compared with that which has been observed in Paris and other large cities, it is very high for London; and is sufficient to account for the terror which has been excited by the very name of a scourge, before which the strongest and apparently most healthy fall in a few hours. In 1832, according to the Registrar General, there were 4266 deaths from this disease during a period of five months (June 15 to October 31); and from a table published in a recent number,* we are informed by the same authority, that in less than four weeks of 1849 (13th July to 6th August), the deaths from cholera in London were 2,062, *i. e.*, about *one-half* the number of 1832, in *one-fifth* part of the time!

It would also appear that in this second outbreak the metropolis has suffered in a much greater proportion than other parts of the empire. Thus, during the period mentioned, the deaths in London were 2,062, and in the provinces 3,005. Taking the relative population, it will be perceived that the deaths in London were disproportionately great. It is a singular fact, as showing the universally virulent character of the disease, that the deaths, both in London and the provinces, were as nearly as possible *fifty per cent.* of the attacks!

We have thought it right to place these statements before our readers in order that they may judge for themselves respecting the nature, extent, and fatality of the present mysterious visitation. Our hope is, that before long we may have it in our power to take a more favourable review of our position. In the meantime we may draw some consolation from the fact, that we have not been so severely visited as other nations. In Paris, the victims of this dire pestilence sometimes amounted to *six hundred daily*: in London they have rarely exceeded one hundred.

During the last week the ravages of the cholera in the metropolis have been greater than in any week yet recorded. The deaths from the disease were 1230 out of a total of 2230. There has, therefore, been an increase of one-third on the deaths in the preceding week. Of the 1230 deaths, there were 597 males and 633 females, at the following ages:—

Under 15 yrs.	Between 15 and 60.	Above 60.
318	721	191

It will be perceived, therefore, that the greatest number of deaths have occurred among individuals in the prime of life. We subjoin our weekly summary of the progress of this disease in the metropolis:—

	Attacks.	Deaths.
August 16.		
In London and vicinity . .	358	157
In England and Wales . .	408	192
In Scotland	27	15
Total	793	364
August 17.		
In London and vicinity . .	385	179
In England and Wales . .	313	130
In Scotland	51	27
Total	749	336
August 18.		
In London and vicinity . .	239	118
In England and Wales . .	446	204
In Scotland	38	18
Total	723	340

* See page 257 of this volume.

August 19 *and* 20.		
In London and vicinity . .	494	220
In England and Wales . .	476	224
In Scotland	136	47
Total	1106	491
August 21.		
In London and vicinity . .	322	186
In England and Wales . .	331	172
In Scotland	20	19
	673	377
August 22.		
In London and vicinity . .	404	179
In England and Wales . .	274	105
In Scotland	23	24
	701	308

The deaths have averaged 176 daily, and they are still on the increase.

From the subjoined table, it appears that during the *week* ending the 18th of August, there were throughout the country upwards of 5000 cases, and 2279 deaths.

Week ending August 18.	Attacks.	Deaths.
In London and vicinity . .	2400	1005
In England and Wales . .	2608	1132
In Scotland	267	142
Total	5275	2279

TYPHUS TERMINATED BY AN ABUNDANT ERUPTION OF PEDICULI.

Mlle. M——, thirteen years of age, born of healthy parents, and herself endowed with a strong constitution, was attacked with typhus, which, however, presented nothing unusual in its course, with the exception of occasional accessions of violent delirium, with great agitation, followed by extreme prostration. At length on the twenty-fourth day coma supervened and resisted all means for its removal; the pulse was small, irregular, and very frequent; the respiration laboured, and the eyeballs were convulsively turned upwards. The evacuations passed involuntarily. This condition continued for thirty-six hours, when suddenly she fell into a profuse perspiration. She was closely watched during this crisis. Shortly afterwards she awoke from the state of coma, and complained of intolerable itching about the head and limbs. On examining these parts, myriads of pediculi were found, which the patient only gradually got rid of. From the date of the appearance of these unusual symptoms convalescence commenced, and the patient gradually recovered.—*Bulletin Général de Ther.* Jan. 15, 1849. χ

Reviews.

1. *Essays on Infant Therapeutics; to which are added Observations on Ergot, and an account of the Origin of the Use of Mercury in inflammatory complaints.* By John B. Beck, M.D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of the State of New York, &c. Small 8vo. pp. 117. New York: Dean. 1849.
2. *On Infantile Laryngismus: with Observations on Artificial Feeding, as a frequent cause of this complaint, and of other Convulsive Diseases in Infants.* By James Reid, M.D., &c. Small 8vo. pp. 204. London: Churchill. 1849.
3. *An Essay on the Cerebral Affections occurring most commonly in Infancy and Childhood; including notices of their history, causes, diagnosis, prognosis, and treatment.* By Valentine Duke, M.D., &c. 8vo. pp. 90. Dublin: Fannin and Co. London: Longman and Co. 1849.
4. *Observations on the Enlargement of the Liver and Spleen; and on Pica in Children.* By Francis Battersby, M.B., F.R.C.S.I., &c. Reprinted from the Dublin Quarterly Journal, May, 1849.
5. *Observations on Pleuritis and Empyema in Children.* By Francis Battersby, M.B. T.C.D., &c. Pamphlet. 8vo. pp. 27. Dublin: Hodges and Smith. 1847.

I. Dr. Beck's treatise contains some practical remarks on the employment of, and the caution to be observed in the use of, some of the most important and energetic modes of treatment adopted in infantile diseases. 1st. On the effects of *opium* on the young subject. The author points out that this powerful medicine acts with greater energy, and at the same time with much less certainty, in infants than in adults; that these facts arise out of the physical organization—more especially as regards their cerebral circulation—also from constitutional peculiarities, and the actual state of disease in infants. From a full consideration of these conditions, and of the fatal consequences attending the misuse of opium, the author urges the following

cautions:—1. To avoid its use as much as possible in the young subject; 2. To observe great care as to the forms of its administration; 3. To begin its use in very small doses; 4. Not to repeat them at too short intervals. As we have ourselves very recently known an infant of three weeks of age sink apparently from the administration of one-eighth of a drop of laudanum, we fully concur in the author's cautions, and commend them to the careful study of junior practitioners.

The second essay treats of the administration of *tartar emetic*, pointing out the greater readiness with which, from physiological causes, vomiting is produced in the infant than in the adult; and dwelling more particularly on the sedative action of the drug. Those who have witnessed its poisonous influence on the young subject will concur with Dr. Beck in laying down the rule, that it ought never to be administered to children under one year old; and to others only rarely.

In the third Essay, Dr. Beck treats of the action of *mercury* on the young subject, and inveighs forcibly against the rash employment of calomel as a common purgative for infants,—a practice condemned alike by reason and by experience.

Essay the fourth—on the effects of *blisters* on the young subject—shows the injurious consequences which have resulted from the injudicious use of these means, the discrepancies of opinion which exist on their utility, the proper conditions for their employment, their greater readiness of operation on the infant, and the importance of not resorting to their use unless some certain good can reasonably be expected therefrom.

The fifth Essay sets before us the great susceptibility of infants to the effects of *blood-letting*, the injurious consequences which have often resulted therefrom, and the caution to be observed in its extent and mode of employment. The author more especially protests against the abuse of this remedy in infants, which he informs us is a prevalent error in the United States, owing to the great influence of Dr. Rush, who advocated its employment in all diseases to an injudicious extent.

In the sixth essay the author brings prominently forward the supposed injurious effects on the child of the use of *ergot* during labour. We are disposed to think that where such results have occurred, they are to be attributed to its ill-timed employment. We have never witnessed these fatal effects on the child when it has been given with proper care, but we have often met with retention of the placenta from irregular contraction of the uterus, after its exhibition. The advantages to be gained by it in post-partum hæmorrhage are now matter of experience with obstetricians, though not referred to by Dr. Beck.

The origin of the use of mercury in inflammatory complaints, which forms the subject of the last essay, is traced by the author to the occurrence of an epidemic putrid sore-throat, which desolated the American colonies in 1735, and several successive years. Its progress was first arrested by the employment of calomel by Drs. Douglas and Ogden; and hence this remedy came to be extensively employed in inflammatory diseases. We are informed by the author, that Dr. Hamilton, who first introduced it into extensive use for the same end in England, learnt its value from a naval surgeon, who had become acquainted with its employment in inflammatory complaints in the East Indies; whither we are to infer it had been transmitted from America.

These essays contain in a small space many valuable hints that may prove of extreme importance to the young practitioner, who has much reason for thankfulness to all who shall put him on his guard against the *nimia diligentia* in handling such remedies as are herein treated of. That the cautions given are, perhaps, less urgently needed in this country than they appear to be beyond the Atlantic, in no degree detracts from the high estimate we are disposed to place upon the intrinsic merits of this little volume.

2. Dr. Reid's Observations on Infantile Laryngismus presents us, first, with a concise literary history of the disease, followed by a complete pathological and semeiological history. After a very full and elaborate consideration of the symptoms, and the relation of these to the supposed and most obvious causes, together with a candid examination of the claims of the various theories which have been advanced for

its explanation, Dr. Reid assumes the following positions:—

"That the most common origin of laryngismus exists in irritability of the bowels, as a consequence of indigestion.

"That this state is most likely to occur during the period of dentition.

"That the spasmodic effects are more frequently observed, and are much more severe and durable, whilst the infant is respiring an impure atmosphere.

"That the same causes which induce this disease are precisely those which, above all others, will favour an attack of cerebral convulsions.

"That laryngismus is essentially a spasmodic complaint, and will require, therefore, in its treatment remedies which are generally employed for this class of disorders." (p. 108.)

The principles of treatment in these cases will be obvious if the preceding positions be allowed: and we may observe that it is certainly no slight confirmation thereof, that, so far as our experience extends, under theories the most opposite in relation to its causes, the treatment which such positions would indicate has been that which has been attended with the greatest measure of success.

Dr. Reid attaches great importance to suckling, as the one great and indispensable point in the diet of children predisposed to convulsive affections; and in a previous portion of his work he has given a great share in the causation of the disease to rearing by hand. Where the latter course is unavoidable, it is clear that too great care cannot be observed in the infant's diet.

Dr. Reid remarks also on the happy results obtained from a change of air. In confirmation of his advice on this head we would refer our readers to a paper by Mr. Roberton of Manchester (Med. Gaz. Jan. 5, 1849), in which the unmistakeably beneficial effects in these cases of free exposure to a pure, dry, and bracing atmosphere were most strikingly exhibited.

Dr. Reid appends to his useful essay notes of twenty-six cases in illustration of his preceding observations.

Our own acquaintance with this disease and its treatment leads us to concur in Dr. Reid's views both of its pathology and therapeutics. We can, with much satisfaction, recommend his book to our readers as containing a very perfect account of the subject of which it treats, as conveying altogether clearer views of its nature, and, at the same time, affording more certain rules of treatment than we have elsewhere met with.

3. Dr. Valentine Duke's Essay appeared as one of the contributions to the last volume of the Transactions of the Provincial Medical and Surgical Association. It has since been published in a separate form, and has thus come under our consideration. As we shall have occasion to notice it hereafter, we must now content ourselves by placing before our readers a bare enumeration of the affections to which it refers. These are—1. Congestion of the brain. 2. Irritation or erethism—a disease of "dentition," and which may prove the precursor of hydrocephalus. 3. Hydrencephaloid disease; the features of this form of disease have been described by Dr. M. Hall: it is a disease of debility, and results from long-continued diarrhœa, and other causes of exhaustion. 4. Convulsions. 5. Acute meningitis: a disease which we agree with the author in regarding as distinct from hydrocephalus or tubercular meningitis, and which is unfortunately little amenable to treatment. 6. Hydrocephalus acutus—tubercular meningitis. 7. Chronic hydrocephalus. The two latter diseases the author treats of at considerable length.

This essay constitutes a clear outline of the principal features in these affections, and as such does credit to Dr. Duke's practical acquaintance with disease, and to his familiarity with the literature of his profession.

4. In this essay Dr. Battersby simply refers to enlargement of the liver and spleen as two causes of enlargement of the abdomen in children, which have been overlooked by authors, supporting his opinion by reference to the writings of acknowledged authorities on diseases of children, and recording the particulars in seven cases in which he has met with these morbid conditions. These cases were complications with disease of the heart and other organs. Their details are instructive, and may be consulted with advantage by all practitioners.

5. Dr. Battersby's Observations and Cases, contained in the last pamphlet on our list, are intended to show that pleurisy is more frequent in infants

than is usually supposed. No doubt this complication often attends the bronchitis and pneumonia of children, and may be overlooked; but our experience does not lead us fully to concur with the author, and the several authorities whom he quotes, in the opinion that simple and uncomplicated pleuritis is a very frequent occurrence among children. The cases related by Dr. Battersby demonstrate that this species of inflammation is difficult of detection until made manifest by its results in the form of effusion. The great importance, therefore, of its early detection is obvious, although, even when effusion has taken place, reparation, either by tapping or by the influence of remedies, more certainly follows than in adults. This circumstance does not dimish the value of Dr. Battersby's caution—"by a careful physical examination to avoid gross blunders in diagnosis and treatment." We trust the author's remarks may contribute to the practical enforcement of this salutary caution.

In concluding our notice of these works, we may observe that they furnish examples and proofs of the increased attention which the diseases of children have received in modern times. It is not many years since this class of cases were either passed over altogether in systematic works on medicine, or were treated according to the purest empiricism: they were so beset with erroneous views, and so confused were the notions of their causes and treatment, that most physicians turned from them in despair or in disgust; and although much has been done by our predecessors to redeem them from this state of neglect, yet that much remains to be done is equally clear from the extremely favourable reception which has but recently been accorded by the profession to the laborious, and we may say classical, work of Dr. West on the diseases of children.

Practical Observations on certain Diseases of the Chest, and on the Principles of Auscultation. By PEYTON BLAKISTON, M.D. F.R.S., Physician to the Birmingham General Hospital, &c. &c. 8vo. pp. 368. London: Churchill. 1848.

TRITE as may be the remark, that it is the duty of those enjoying the advantages afforded by our large metropolitan and provincial hospitals to impart to others for the good of society the results of the diligent employment of their opportunities, yet it is unfortunately equally true, that the number of those who neglect, is greater than of those who thus improve these advantages. The author of the work now before us belongs to the latter or the improving class. His "Observations" not only exhibit a practical acquaintance with the phenomena of disease as learnt at the bedside, but they manifest the influence of a due sense of the responsibility we have referred to, leading to a careful comparison of the author's own experience with that of other labourers in the same field, and to a rational application of the scientific principles of physics to the elucidation of obscurities with which the subject is beset.

Dr. Blakiston's "Observations" include, not all the diseases of the chest, but several series of cases illustrative of the history of thoracic aneurism, of chronic heart disease, pleurisy, pneumonia, and phthisis, the consideration of these several subjects being preceded by an exposition of the principles of auscultation, accompanied by eighteen propositions on the properties of sound. These propositions may be considered a valuable addition, as they afford to those not familiar with the science of acoustics a sufficiently concise physical explanation of the phenomena with which, as auscultators, they are, or ought to be, daily conversant.

The next five chapters convey the practical application of acoustic principles to the detection of healthy and morbid sounds accompanying the movements of the thoracic viscera. The explanations here offered on the mechanism of the various respiratory and cardiac sounds, are deduced from the comparison of several theories which have been lately propounded, and the author's reflection thereon, forming an instructive summary of the present state of knowledge on this subject. We would urge one objection — namely, that the descriptions in words, of the sounds to be heard, appear to us rather calculated to perplex than to assist the student. We do not make this objection exclusively to the work before us; it applies equally to other works on diseases of the chest. Forgetting that for practical purposes the recognition

of these diseases can be attained only by clinical industry, their infinitely varied comparisons and illustrations are only available to those whom the author before us thus describes :—

"Others confine their studies to the closet. With no higher aim than to pass the requisite examination for their diploma, they learn a long vocabulary of sounds, and commit to memory certain combinations of them, which are said to exist in particular diseases ; and here they stop. They never learn to practise auscultation.

"Some, again, having advanced to a certain point, become lost and bewildered amidst the multitude of sounds which the subtle refinements of some authors have caused them to describe ; and thus they give up the pursuit in despair." (p. 58.)

From these preliminary chapters we further extract the author's opinions on the construction of the stethoscope :—

"The construction of the stethoscope must in some degree depend on the views we entertain of the manner in which it transmits the sounds of the chest to the ear. It has been customary to employ a hollow tube, as it is generally considered that sounds are best conveyed through the air contained within it, which is prevented from diverging by the sides of the tube. Dr. George Budd,* whilst employing a hollow stethoscope, maintains that the sounds of the chest are for the most part propagated to the ear by the walls of the instrument; and that the only advantage which results from boring the wood is, that it is thereby made thinner, and thus vibrates more freely. Dr. C. B. Williams, in reply to Dr. Budd, argues that the air within the cylinder must be the principal conducting medium of the sounds caused by respiration, because such sounds, being chiefly formed in air, are by Prop. xiv. best conducted by the medium in which they are generated. If we were desirous of listening to these sounds as they issue from the mouth, the hollow, bell-mouthed stethoscope would doubtless prove an excellent ear-trumpet, and would transmit them faithfully up to the ear, through the medium of the air contained within it. But the object of auscultation is to listen *through the walls of the chest*. Before, therefore, sounds formed within the chest can reach either the stethoscope or the ear, they must pass through these walls. The sounds, therefore, which are perceived by the ear, are the vibrations of the walls of the chest ; and consequently, by the law above quoted by Dr. Williams, they will best reach the ear by a solid conductor. In respect to the sounds originally engendered in air, a break of medium has necessarily taken place, by their having to pass through the walls of the chest ; but we cannot compensate for the loss of sound thus occasioned, by restoring the original medium ; on the contrary, we only add to the loss, inasmuch as by Prop. xiii. a destruction of sound takes place on *every* break of medium.

"Theory, therefore, indicates the utility of employing a SOLID STETHOSCOPE." (p. 54-55.)

* MEDICAL GAZETTE, 1836.

The opinion here deduced from theoretical principles the author has found fully borne out by the practical experience of himself and others. At page 57 the reader will find a description and engraving of the author's stethoscope.

The consideration of *Thoracic Aneurisms* extends over four chapters, and is treated under the several divisions of their formation, causes, diagnosis, treatment, progress, and termination. The perusal of these chapters, and of the accompanying cases, cannot fail to be instructive on a form of disease so obscure and so difficult to cope with. The frequent post-mortem discovery of thoracic aneurism, both in its incipient and in its advanced stages, equally unsuspected during life, renders an increased knowledge of the means of diagnosis desirable. We think that the information which the author has industriously collected from many sources, combined with his own extensive practical acquaintance with this disease, contributes to this end :—

"It is generally admitted that there are three principal forms of aneurism of the thoracic aorta.

"*Dilated aneurism*, in which all the coats of the artery unite in forming the walls of the pouch throughout its whole extent.

"*Sacculated aneurism*, formed by the cellular coat and neighbouring organs, which the blood has reached through a perforation of the inner and middle coats.

"*Mixed aneurism*, in which the walls of the pouch are partly formed by all the coats of the vessel, and partly by the cellular coat and contiguous parts. Thus the second form has been engrafted on the first by the perforation of the inner and middle coats forming the walls of the dilated aneurism." (p. 61.)

"Thoracic aneurism generally proceeds to a fatal termination ; which either results from the escape of blood through a perforation of its walls, or from pressure on some vital part near it. Its progress, however, is

influenced by several circumstances connected with its *situation*, *the state of its walls*, and *the nature of its contents*.

Situation.—Aneurisms which arise either from that portion of the aorta which is within the sac of the pericardium, or from that which lies between the left bronchus and the diaphragm, usually run their course without materially affecting the neighbouring organs. Those which spring from the root of the aorta seldom if ever attain a size larger than that of an egg, before they burst into the pericardium, in consequence of that membrane, which constitutes the outer coat of the vessel in this spot, being very thin and inextensible." (p. 66.)

The remarks on the walls of, and on the contents of these aneurisms, as well as of the various modes in which nature endeavours to ward off a fatal termination, contain all that is at present known on the subject.

In aid of the diagnosis of thoracic aneurism, much stress has been laid upon certain characters of the pulse; these doubtless have often consisted, as the author suggests, of overstrained refinements upon which little reliance can be placed.

Other indications may be derived from the circulatory movements, such as pulsation, thrill, venous congestion, action of heart, &c.

With reference to murmurs, the following is the result of Dr. Blakiston's experience:—

"But little can be learnt from their intensity or quality, because, as has been shown, these properties depend in a great measure on the force of the heart's action. Where we find evidence of the existence of an aneurismal tumor, with little or no murmur, and at the same time we find the action of the heart to be strong, we may conclude that the aneurism is large and sacculated, and that it communicates with the aorta either by a very large or a very small orifice; or else that it is, from some cause, very inelastic: a conclusion, however, which would be drawn from a consideration of the manner in which such sounds are produced, rather than from practical observation." (p. 132.)

We have quoted, at some length, the opinions of Dr. Blakiston on the chief points involved in the study of thoracic aneurism, because while they give us a fair view of the existing state of medical science in reference to this subject, the extracts which we have put before our readers will also afford examples of the style of the author, and of the contents of his volume.

The cases of chronic heart disease, and the observations appended, extending through three chapters, are instructive, and convey, as we have already said with regard to the previous chapters, a correct estimate of what has been done, and of what still remains to be done, in this department of pathology. But while this is true generally of Dr. Blakiston's observations, one very striking exception is to be found to this rule: we do not once find the name of Latham, the father of cardiac pathology in England, mentioned throughout the volume.

Pleurisy is the subject of three chapters, and the result of Dr. Blakiston's observations leads to the conclusion that the consequences and terminations of this form of inflammation are less serious than has been supposed, that complete recoveries more frequently take place, and that phthisis is more rarely a sequence than has been asserted. A case of empyema successfully treated by paracentesis is also reported; but we would refer our readers to the papers by Dr. Hughes, in the pages of this journal, for the fullest information on this head.

With regard to the treatment of pneumonia, Dr. Blakiston advocates the use of tartarised antimony in preference to bleeding, calomel, opium, &c.: when complicated with pleurisy, mercurial ointment has been employed by the author, as well as blisters, and in some cases leeches. The treatment of pneumonia, however, varies so much according to extraneous circumstances, that different observers necessarily advocate different measures.

The remaining chapters of the work are devoted to the subject of phthisis; but as we do not find any addition to the microscopical and chemical researches which have been recently published, we have only to observe that both the author's review of the investigations of others into its morbid anatomy, and his experience of various modes of treatment, do not warrant the confident assertions of *certain cures* so boldly proclaimed by pretenders to more than usual skill and learning.

"I have certainly had numerous opportunities, in public and private practice, of witnessing the effects of all these plans of treatment in the hands of others, and could

adduce striking instances of the benefit of a change from the antiphlogistic and expectant to the tonic treatment, and could also contrast the effect of different plans of treatment on members of the same family; but as so few are ever relieved, I do not think that the analysis of any number of cases which have come under the observation of one individual could afford sufficient data for the induction of satisfactory conclusions. With Louis, therefore, I am content to seek for rules of treatment solely in the nature and cause of the disease, as far as they are at present known to us." (p. 341.)

The remarks which follow, on the prophylactic treatment of phthisis, are most judicious, and will serve for the guidance of the student and the young practitioner.

The entire volume will be acceptable to the last mentioned sections of the profession, as containing the latest practical information on the subject of chest-diseases. It has been not only compiled judiciously from trustworthy sources, but tested by ample experience guided by sound judgment. Its careful perusal will be a profitable study to the most advanced and scientific practitioner. To both it will, we doubt not, be rendered more accessible in another edition, by the abridgement of those portions devoted to the details of cases.

Oratio ex Harveii Instituto in Ædibus Collegii Regalis Medicorum habita Pridie Calend. Julii, A.D. 1849. A J. C. Badeley, M.D., Cantab. 8vo. pp. 20. London: Churchill. 1849.

We suppose that it would not be orthodox to object to this annual oration being delivered in a language, which, as a medium of colloquial intercourse among men, has been extinct for more than a thousand years; nevertheless, we cannot avoid expressing our conviction, that an address devoted to the purposes of the Harveian Oration, would appear much better in plain English. It is not possible to imagine that in a Roman Medical College, the life and writings of Galen would have been commemorated in Hebrew or Coptic; and yet we are practically working a similar absurdity, by using in the 19th century the *Latin* language to do honour to the memory of an *English* physician. It is not our desire to depreciate the value of classical knowledge to the medical profession, but we hold that there are much better methods of maintaining it than that of compelling an English physician to deliver annually an oration in a tongue the true mode of pronouncing which has been lost. The delivery being in Anglo-latin, would of course be perfectly unintelligible to the best Italian or Spanish classical scholar. If any Englishman doubt this, let him listen to a Latin sermon from the mouth of an Italian monk.

Besides, the Latin language, owing to its want of freedom, does not lend itself readily to the description of a state of things for which it was never adapted. There must always be in it, as used by modern orators, a certain degree of stiffness. The best English scholar will fail in doing more than giving to modern English ideas, a respectable Latin exterior. The thought and sentiment are English done into Latin. Even if every member of the audience could perfectly follow and comprehend the meaning of the orator, these objections are, we consider, sufficiently strong to render a departure from the present system advisable.

We have read the oration before us, and must do Dr. Badeley the justice to say that throughout, it bears the marks not only of good classical knowledge and skilful composition, but also of a painstaking desire to make the subject practically useful. There is no obscurity of language; the views and sentiments of the orator are perfectly clear and intelligible. Commencing with *Linacre*, the celebrated physician of that *Carnifex Maximus* Henry VIII. the orator gives us short but interesting notices of the lives and works of *Caius*, *Harvey*, *Sydenham*, and other medical celebrities of by-gone times. He wishes that another Linacre would appear in our own time, to suppress quackery, and quiet the storm of medical agitation, by some useful and practical measure of reform.

"Quantum profecto saluti publicæ profuerit, si Angliæ Senatus auctoritatem plenam Collegio nostro concederet, per quam ignaros Medicinæ professores, nec gradu Academico, nec Diplomate donatos, non solum in hâc urbe, sed etiam per totam Angliam facilè cohibere posset! Rationi enim vix consentaneum videtur talis Collegii auctoritatem salutiferam intra terminos tam

augustos concludi! Quantò commodius, quanto Reipublicæ quæstuosius fuerit, si circulatores istos, qui plebi "grande ferunt una cum damno dedecus," qui dolis suis improbis et funestis, nimis heu! credulos indies captant, pœnâ coercere Collegio Medicorum licuerit!" (p. 7.)

In the time of Linacre, and under the sway of a sovereign who paid but little respect to Acts of Parliament, the settlement of medical differences might have been easy; but *tempora mutantur et nos mutamur ab illis.* We believe that half a dozen Linacres would not now succeed in reconciling the conflicting interests which divide the profession on the subject of medical reform.

It is mentioned as a curious fact in Sydenham's practice, that he was a great advocate for the use of beer in the treatment of disease—the "*Cerevisia tenuis Londinensis:*" this is the small-beer with one per cent. of alcohol;—What he would have said to "stout," or to the poisonous decoction now sold as London porter by publicans, it is difficult to conjecture? We copy the following piece of consolation for lovers of beer when stretched on the bed of sickness:—

"In Febribus sanandis Cinchonæ valde innixus est, et Cerevisiam rarò ægris denegandam sed potiùs commendandam, vi sibi propriâ præcepit.—In Tractatu de Podagra etiam ait, "Liquores quod spectat, ii, me "judice, optimi sunt qui neque ad vini generositatem ascendunt, neque ad aquæ debilitatem deprimuntur; cujusmodi est Cerevisia tenuis Londinensis; cum extrema, ab utrâque parte, noceant."—Dein, in Tractatu de Febribus hisce utitur verbis; "Negare vero Cerevisiam tenuem, quæ subinde in mediocri quantitate sumatur, severitas est minimè necessaria, immo etiam sæpe detrimentosa!" In tot morbis denique Cerevisiam tantis effert laudibus, ut serto laureo, lupulis intexto, coronari mereatur!" (p. 11.)

The last sentence contains a good suggestion, that the medical advocate of this old English beverage should have had his temples adorned with a wreath of hops.

In reference to the non-admission of Jenner as a member of the College, we find the following passage, which is highly creditable to the candour of the author:—

"At si forte objiciatur hominem hunc felicem, cujus nomen laudabile per totum orbem terrarum viret semperque virebit—(de quo ipsa hæc Societas loqui suo jure possit, 'cum talis sit, utinam noster esset,') nunquam inter nos admissum fuisse, et idcirco sub silentio premendum, recordamini, obsecro vos, Socii! quantam messem non sibi soli, sed et universo humano generi eum reportasse, et tacete! (p. 13.)

That "*filius Caledoniæ,*" Dr. Baillie, also receives a well-merited compliment for the movement which he was the first to give to pathological researches; and that man of universal learning, Dr. Young, is also fairly eulogised for his varied and sound knowledge of science. Among other matters—

"Symbola hieroglyphica, quæ in monumentis et tabulis Ægyptiacis, et præ omnibus in Rosettæ saxo incisa sunt, e tenebris eripuit." (p. 15.)

Of the late President of the College, Dr. Badeley says—

"At vox mihi parùm facunda est ut dicam quæ velim, dum in dilecto hoc nomine paulo diutiùs immorer! Ah! quoties hùc ingredior—quoties sceptrum quod sua manus recenter gestavit video—quoties togam illam auratam, Præsidi propriam, aspicio—quandò nunc iterum hoc festo die, has ædes, tanto doctorum cætu celebratas, et tot viris illustrissimis spectatissimisque ornatas contemplor—quonam 'desiderio tam cari capitis' nonne me commoveri sentio?" (p. 16.)

And of the present occupant of the Presidential chair—

"Etsi enim Præsidem illum, quem amore propiori dileximus, quem et avulsum oculi omnium hæcce inter subsellia etiam nunc desiderant, commemoravi, 'non deficit alter' qui quodcunque ad materiam medicam attinet tam lucide exposuit—qui, quid sit bibendum, quid utrinque vitandum, nos scienter docuit—qui in chemiâ et in philosophiâ se clarum præstitit—qui chemiæ illius principis Humphredi Davy vitam fideliter scripsit—qui summatim per varios tractatus

'Sic miscuit utile dulci,
Lectorum delectando, pariterque momendo,'

ut præsenti illi maturos fas sit largiri honores! Ergo, quid restat, nisi ut Horatii verbis optemus,

'Paris, ut salvus regnet, vivatque beatus!'*

(p. 18.)

We thought the honour of writing on "What to eat, drink, and avoid," belonged to Dr. Culverwell. One branch of science to which the President has

* Hor. Epist. lib. I. Epist. 2, l. 10.

largely contributed by his writings, namely, *Medicina Forensis*, is altogether unnoticed by Dr. Badeley, as also the fact that for his researches on this important subject the *Præmium Swineyanum* has been recently awarded to him.

Dr. Badeley is decidedly in favour of making the College of Physicians more strictly the College of the Profession. He deprecates medico-political struggles, and advises conciliatory measures.

"Si in re medicâ renovatio quædam et commutatio sit instituenda, ne bellum civile, quod Europam ferè universam nuperrimè fœdavit, templum Apollini sacrum, vos precor, polluat! Ita vero instituatur, ita ordinetur Reformatio, ut, vice distrahendi, auctiori potius vinculo nos invicem alliget! Latius hujus templi pandantur portæ, adeo ut quæcunque sit Alma Mater, sive sit Oxoniensis, sive Cantabrigiensis, sive Londinensis, sive vel Edinensis vel Eblanensis, filii cujusque (sint modo digni) nos inter recipiantur!" (p. 20.)

With this we close our notice of the Harveian Oration for 1849. In the preparation of it, Dr. Badeley has well sustained the reputation which he had already acquired as a classical scholar.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

August 17th, 1849.

On the Treatment of Epidemic Cholera.

On Thursday evening last, an extraordinary meeting of the South London Medical Society was held at the Literary Institution, Borough Road, Southwark, for the purpose of discussing the nature and treatment of the prevailing epidemic.

Mr. John Hilton took the chair at 7 o'clock, supported by the honorary secretaries of the Society, Mr. J. Hicks and Dr. P. J. Murphy. About fifty professional gentlemen of the district were present.

The Chairman said, he was not prepared with any experience of his own, but as the cholera was on the decline in the southern portion of the metropolis, where it had raged with greater virulence than elsewhere, he had thought it would be advantageous to the public if the experience of the members of that Society, who had been so laboriously occupied in the treatment of cholera cases, could be extended over a larger area of the profession. He would suggest that in the remarks which any gentleman might offer, it would be desirable if he would endeavour to establish some principle or striking fact, rather than to detail the treatment of particular cases. It would be important if any one could adduce any proofs of the communicability of cholera or otherwise. They might be unable to prove that it was not contagious, but if it could be proved that it was communicable from one person to another, a great point would be established.

Mr. Wright believed in the communicability of cholera, and mentioned a case of a young woman who had been in a house where cholera prevailed, who had taken it into a house in a comparativcly healthy neighbourhood.

Mr. Waterworth wished to know whether there had been no cholera in the immediate neighbourhood to which it was alleged it was conveyed by this young woman?

Mr. Wright believed that there was cholera not far off, but that there had been no case within a few doors on each side of the house to which she was supposed to have taken it.

Mr. Waterworth.—To prove the contagion there ought to have been no case in the neighbourhood. The case cited proved nothing respecting the contagiousness of the discase.

Mr. Hicks having seen a considerable number of cholera cases, thought they might be divided into three classes; first, those depending upon neglected diarrhœa, which might probably have existed for the greater part of a fortnight. This class of cases were amenable to treatment. The next class were infected with a poison of a more serious character: they were attended by purging and vomiting, but still the patients were not in a complete state of collapse, and the disease might be checked at this stage, if the patients were not too far gone in a state of collapse. But in the third stage, where the patients were in a state of complete collapse, although he had applied mustard poultices, together with brandy, chloroform, ether, ammonia, and other stimulants, yet in no cases at this stage had these remedies been attended with success. With regard to the second class of cases, at least, he believed the disease was not contagious. There had been instances where two or three cases had broken out in the same house, but in every instance in which he had seen an extension of the disease it could be traced either to some open privy at the back door, from

which a stench was emitted, or to noxious vapours of some character or other. In nine-tenths of the cases that had come under his notice, the appearance of the cholera had been preceded by diarrhœa, although he had certainly witnessed some cases where no previous diarrhœa had existed, and these cases were the most fatal, for the persons so attacked were struck down as if from some morbific poison, from which they never rallied. It was rather remarkable that the worst cases which had come under his notice were those in which he had been called up about 4 o'clock in the morning.

Dr. H. Lane begged to make some lengthened observations on the subject-matter of the present meeting, and was proceeding to detail the results of his practice in Liverpool in 1832, when he was stopped by

The Chairman, who said that the object of the meeting was to elicit the results of the experience of the members of the present Society.

Dr. P. Murphy had seen the cholera of 1832 and that of the present year, and he had very little doubt that it was contagious and communicable. He regarded all epidemics as contagious; endemics were not. In every country that was insulated, the disease had made its appearance in some sea-port towns. In 1832 the cholera was introduced into this country at Sunderland, and afterwards at Liverpool; in Ireland it first appeared at Drogheda. He believed that the cholera was communicable even from a dead body. With regard to the treatment in the stage of collapse, he feared that he only knew what remedies did no harm, for he knew of no certain means of cure. Every epidemic made its attack on the mucous membrane, and bleeding in any epidemic was, he believed, injurious. The cause of death in cholera was from the serum of the blood exuding and passing from the blood to the intestines. He (Dr. Murphy) was the first medical man who ever used saline injections. Out of 32 cases at Liverpool in 1831-2 in which he had used saline injections, eight recovered, and the rest died. These eight were the youngest persons; the older persons always died under this treatment, and, as there was some reason to believe that the eight recoveries would have been effected without the saline injections, they were given up. When the collapsed stage arrived, unless galvanism did something, no other remedy was capable of propelling the crassamentum of the blood through the veins, separated as it was from the serum, which had almost disappeared. Nothing but a solid kind of coagulum remained in the veins and arteries; and how the heart was to be made to push this coagulum through was a problem he never had been able to solve.

Dr. Barlow was of opinion that cholera was in some cases contagious. He concurred in what had been said respecting the impotence of medical treatment when the disease was malignant, and had arrived at its latter stages. In the worst cases that he had seen, where recovery had followed, little or nothing had been done; perhaps a little calomel and camphor had been given, but the patient had not been exhausted by overheat, or the heaping up of bed-clothes.

Dr. Rees had had a great deal of experience of cholera in the Bermondsey workhouse, but he was free to confess that, although he had seen a very great deal, he knew very little of it. He had tried several plans, and he did not believe any one possessed any advantage over the other. He had tried the application of cold water to the surface; charcoal had also been greatly recommended; and he had used carbonic acid. The calomel and opium treatment had also been tried freely, and he was now trying the bichloride of mercury; but, so far as he had seen, no single plan, he repeated, showed any great advantage over any other. But, whatever plan of treatment he adopted in cases of Asiatic cholera, he always applied water to the surface and gave saline fluids for drink. These two remedies did not attack the causes of the disease, but they tended to supply that which was leaving the system, and the practitioner had then to look for something to neutralize the poison. The true remedy for the disease would, in his opinion, be found to be something that would unite with animal poison; such as bichloride of mercury, arsenic, creosote, tannin, &c. Whenever the happy discovery was made of the real remedy, he anticipated they would see so marked an effect from its administration as to leave no doubt as to its efficacy. But he should always persevere in the application of cold water to the skin, and in giving saline fluids, and he would then use some antidote to the poison, which he believed existed in the blood. A large dose, if he might so speak, of this cholera poison would destroy life at once by its effect on the nervous system. A less dose acted by inducing purging of the serous parts of the blood; and if the man were strong enough, and had a healthy frame, he might recover by the passing away of the poison. He considered the cholera to be contagious in the true sense of the word. He did not say that medical men incurred much danger in visiting a patient; but persons living in a cholera atmosphere, and remaining long about cholera patients, were likely to take the disease. He thought that those young men who were undertaking

the care of cholera patients in the workhouses of the metropolis were deserving of the greatest credit for the zeal and devotion they were displaying in those pest-houses.

Mr. B. Evans held the same opinion as previous speakers, that in certain circumstances, and in a great degree, the cholera was contagious. The treatment he had adopted with the most success had been to give one dose of three or four grains of opium, and from ten to twenty grains of calomel: and if the patient were not in the actual state of collapse, he found this efficacious, if followed up with ice occasionally given internally, and plenty of water, stimulating the body with mustard. It was said that the secretion of urine was suppressed in cases of cholera, but he had seen a remarkable case of exception to this rule. A patient complained of great weight in the lower region of the stomach, and, feeling the bladder distended, he passed a catheter and drew a pint and a half of urine, to the great relief of the man. Twelve hours afterwards he did the same, with the like result. He should now be inclined to pass a catheter in similar cases, to see whether the urine were simply retained, or whether the secretion were really suppressed.

Mr. Gaselee and Mr. Wright regarded it as established by the experience of 1832, that the vast proportion of cholera cases were characterized by the suppression of urine, and by the empty state of the bladder after death.

Dr. Crisp concurred in this view. The contagious nature of the disease was a most important question, which had been *sub judice* for years, and which would probably always remain so. He agreed that, in the more malignant stages of the complaint, medical assistance was but of little avail, but good nursing and great attention were of the utmost importance. He should regret if the opinion should prevail that the disease was highly contagious, because it would be in vain to expect that nurses would attend to cholera patients if such were the case. He had often been asked by nurses, and those in attendance on the sick, "Am I likely to take the disease?" and he always replied to such questions, "I believe not." No evidence that the cholera was contagious had ever been adduced to satisfy him. They were often referred to the cases of healthy persons, who came from the country, who were attacked with cholera and died; but they must allow something for the effects of grief in those cases, and for the feelings of dread and depression that accompanied the spectacle of this malady. He had received a letter from his brother, while on his passage to India in the Tulloch, stating that two cases of Asiatic cholera had broken out amongst the crew, but only two cases in a ship containing, perhaps, 400 or 500, passengers and crew, did not prove that the disease was of a contagious nature. He agreed with Dr. James Johnson in thinking that the cholera was not contagious, although, under certain circumstances, as where persons were huddled together in ill-ventilated rooms, it might be communicable. He had never heard a single instance to prove that the cholera was contagious in the true sense of the word. He had read with much interest the letter of Dr. Ayre, of Hull, in the *Lancet*, detailing the successful results that had followed the administration of two grains of calomel every 10 minutes, with one or two drops of the tincture of opium occasionally in a little water. He had tried it in one case, and he could not give a better proof of his confidence in this treatment than by saying that if he were attacked by cholera he would take two grains of calomel every 10 minutes, with one or two drops of tincture of opium at intervals. He was not aware that this remedy had been tried in London to any extent, and he should be glad to know whether any gentleman present had made a trial of it?

Mr. Mitchell had tried Dr. Ayre's plan in one instance with perfect success. A man had staggered into his surgery in a state of collapse, and how he managed to get there in such a condition was a matter of wonder to him. He recommended his assistant, who attended the man, to try Dr. Ayre's remedy, and this, accompanied by the application of the wet sheet, restored the action to the skin; the man had a distinct pulse, although when he entered his (Mr. Mitchell's) surgery he had no pulse whatever, and he had since rallied, and would he had no doubt recover, although he had no hopes of him when he left his surgery. He had not seen so satisfactory a case of recovery as from following Dr. Ayre's remedy in conjunction with the wet sheet.

Mr. Dendy thought the question of contagion had been set at rest, and that the experience of 1832 had proved that the cholera was not contagious. He did not believe that any proof existed that the cholera had been communicated from a dead body. The cholera sometimes broke out without previous diarrhœa, and it was not advisable to wait for diarrhœa before they used their preventive treatment, a course which had been too much recommended by the newspapers. The only real antidote for cholera was calomel.

Mr. Evans wished to know whether Mr. Dendy had not known cases of diarrhœa to run on into cholera?

Mr. Dendy.—Frequently.

Dr. Hughes said he knew very little of the subject-matter of discussion when he entered the room, and now he knew less.

All the gentlemen who had spoken appeared to hold different opinions as to the best remedy for cholera. He believed in the contagiousness of cholera, and that it might be communicated from person to person and in a healthy district. The medical profession in general supported the doctrine of contagion.

Mr. DENDY believed the essence of cholera to be different from that of diarrhœa, and that it was essential to the production of cholera that there should be previous diarrhœa.

Dr. HUGHES thought there were large secretions in the intestines before persons were hurled down by the cholera, in cases where there had been no previous diarrhœa. Although the excretion might not take place, yet the secretion did, and thus accumulations of rice-water took place, which at length found vent. It was a mistake on the part of the public press to suppose that drains and cesspools produced cholera, but if they were right, then the Commissioners of Public Health had adopted the very means likely to produce that complaint. Instead of taking their measures years ago, they had stirred up all sorts of abominations. They had removed dunghills and cesspools, and added fuel tenfold to the fire that existed. Never since he could recollect had there been such accumulations of abominable odours as since the Health of Towns Commission had attempted to purify the atmosphere.

Mr. HICKS agreed that there were cases of cholera without previous diarrhœa, but from his experience he could say that in 19 cases out of 20 there had been neglected diarrhœa, although there was frequently a great objection on the part of patients to admit they had previously suffered from diarrhœa. He was so far from thinking the public press had been in error in warning the public against the first symptoms of diarrhœa, that he believed the lives of hundreds had been saved thereby.

Mr. DENDY had had a return put into his hands from South Wales, in which out of 963 cholera cases 240 had not been preceded by diarrhœa.

Mr. MITCHELL said that in 120 or 130 cases of cholera that had come under his observation, every one had been preceded by diarrhœa for a longer or shorter time.

Mr. CASEY had seen cases in which the kind of active mercurial treatment recommended by Dr. Ayre and others, had been pushed too far, and where a fatal vomiting had supervened.

Mr. WATERWORTH said, the calomel treatment had been tried in 1832, and had failed. Until they knew something of the nature of this poison, whether it was in the nervous system or in the blood, it was impossible and useless to go into the treatment of the disease. He had been of opinion, in 1832, that the evidence did not bear out the doctrine of contagion; but this opinion had been a little shaken by his experience of the present malady, which had put on somewhat the character of communicability. In cases in which collapse had taken place, he thought he had seen more recoveries where nothing had been done, than where he had interfered, if the power of nature were sufficient to throw off the poison.

It was suggested that the meeting should adjourn until that day fortnight.

The CHAIRMAN said, the ordinary meeting of the Society would take place in the early part of October. They had not acquired much information to-night regarding the treatment of the disease, and he did not know whether gentlemen would be likely to have made up their minds that day fortnight.

It was, however, resolved that the meeting should be adjourned until that day fortnight; and after the usual vote of thanks to the chairman, the meeting broke up.

We understand that the parish of Newington have, at the suggestion of Mr. Grainger, appointed four depôts for the purpose of giving medical assistance to all persons suffering from premonitory diarrhœa. This arrangement has been attended with the greatest benefit to the poorer classes.

POISONOUS EFFECTS OF TARTAR EMETIC ON CHILDREN. BY DR. PICKETT, U.S.

A CASE fell under my observation a few years since, which is to the point. A child, about 3 years old, of robust, healthy appearance, was subject to asthma. To relieve the turns of wheezing, the physician left a solution of tartarized antimony, with directions to give frequent doses until the child vomited freely. This, for a time, operated well; but the dose was enlarged, yet no emesis was produced. True to the directions, the mother repeated the dose so frequently, that *hyper-catharsis* and general prostration began to alarm the parents for the safety of the child. I was sent for, and found him *in articulo mortis*. This dysentery, as they termed it, had been running for some days. He was now insensible, sphincter ani perfectly relaxed, surface cool and moist, constant rolling of the head, livid countenance, indicating that the brain was suffering and death at hand. He died within a few hours —his death evidently caused by the too free use of antimony.—*Boston Med. Journal*, 1849.

Medical Trials and Inquests.

LIABILITY OF BOARDS OF GUARDIANS TO THEIR OFFICERS FOR EXTRA MEDICAL SERVICES.

THE following case will be found of great interest to the medical officers of Poor-Law Unions :—

Uxbridge County Court,

Thursday, August 9.

(Before Mr. J. H. Koe, Q.C.)

RAYNER *v.* THE ETON GUARDIANS.

This case came on for trial for the third time. It will be remembered that the action was brought by Mr. Rayner, Surgeon, of Uxbridge, against the Guardians of the Eton Union, to recover the sum of £10 for medical services rendered by Mr. Rayner to the poor of the parish of Denham, being a district of the Eton Union, and for which Mr. Rayner is the parochial medical officer. The point in dispute was, whether the particular cases charged for by Mr. Rayner came within his yearly salary, or whether he was entitled to extra fees for those services. The charges were made in respect of puerperal maladies where the patients had been attended in their actual confinement by a midwife, but, serious symptoms ensuing, Mr. Rayner was called in, and saved the lives of all the patients, five in number. The case turned on the orders of the Poor Law Commissioners, Article 183. The case was originally tried in May, when, owing to the jury not being able to agree on a verdict, they were discharged. In June it was again tried, and a verdict found for the plaintiff, and annexed to their verdict the jury expressed their regret that the defendants resisted the case without supporting their defence by evidence. A new trial was afterwards applied for by the defendants, on the ground that the plaintiff had not given evidence of the whole of the parties attended by him being in receipt of relief at the time, or the production of orders from the relieving-officer requiring medical attendance. The Court granted the application in July last. The case now came on for trial accordingly. Mr. Samuel Carter, of the Temple, was counsel for plaintiff, and Mr. J. J. Williams for the defendants. The case commenced at five o'clock P.M., and did not terminate until half-past two A.M.

The learned counsel opened the case in a speech of considerable ability, lasting nearly three hours, there being a large body of documentary evidence to go through.

Mr. RAYNER was called, and that gentleman gave a repetition of the evidence given by him on the former trials. Mr. Pullen, the relieving officer, also proved the fact of three of the parties being in receipt of relief when the medical attendance was rendered, in respect of which Mr. Rayner had received no order for attendance; and a gentleman from the Poor Law Board, Somerset House, produced certain return sheets sent up by the Board of Guardians of the Eton Union, or their officers, from which it appeared that an order had been given to Mr. Rayner to attend a patient in one of the cases, in which the defendants contended no order had been given, and which was one of the cases in respect of which the new trial was granted. Mr. D. Macnamara, surgeon, of Uxbridge, was then called to support Mr. Rayner's evidence as to a point of medical science; and this closed the plaintiff's case. These witnesses were cross-examined at length by the learned counsel for the defendants.

Mr. WILLIAMS, for the defendants, then addressed the jury, and in doing so contended that the order of the Poor Law Board, under which the plaintiff sought to recover his claim, did not apply to the cases in question. The learned gentleman called the two women who had attended the patients in their delivery, with an endeavour to show that Mr. Rayner's attendance was not required; but it so happened that in those very cases orders from the relieving-officer had been produced requiring Mr. Rayner's attendance.

These witnesses were cross-examined at length by Mr. CARTER, when it appeared that neither of them could describe the symptoms of puerperal fever.

The patients were all called, but could not speak as to their state; one of them, on being examined by the learned JUDGE as to what the nature of her complaint was, stated that she was insensible when Mr. Rayner attended her.

A Mr. ADAMS, of Colnbrook, one of the medical officers of the Eton Union, was called to prove the symptoms of the various puerperal maladies; and on cross-examination stated that he had never attended but two cases of that nature, and that those attendances took place twelve years ago, and that he could not recollect the symptoms.

Mr. CARTER having replied at length to the defendants' case, and

The learned JUDGE summed up,

The Jury retired. In a few minutes they came into Court, and returned a verdict for the plaintiff for the full amount.

The COURT gave the costs of the present trial, and all former proceedings.

Hospital and Infirmary Reports.

CHICHESTER INFIRMARY.

(*Reported by* Mr. NEWHAM, House-Surgeon.)

CASE III.—*Engorgement of Uterus, with Induration and Ulceration of Os and Cervix.*

Sarah King, æt. 34; admitted, under Dr. M'Carogher, April 17th, 1849. States that she is a married woman, and has had six children: labours all natural with the exception of the fifth, which was exceedingly rapid; and in consequence there was, for three or four weeks, a tendency to prolapsus uteri. Has not been pregnant for two years.

About Christmas 1848, was seized with severe flooding between her catamenial periods: this continued in a less degree for six weeks, rendering her excessively weak. Its place was then taken by a leucorrhœal discharge, which she thinks has drained her constitution almost as much as the discharge of blood.

Six weeks ago the flooding again returned: continued for a fortnight, and then ceased. Last week she experienced another attack of hæmorrhage, and to-day was admitted.

Is hot and feverish; great pain in the inguinal regions; dragging sensations in the back; pulse small and quick; tongue clean; bowels open, but with difficulty. Urine suddenly stops, and in evacuating this as well as the fæces there appears an obstruction in the passage. There is constant discharge of coagula, attended by great itching of external parts. Excessive pain is present on the expulsion of each coagulum.

The *treatment* consisted at first of salines and purgatives; afterwards, of astringent lotions, and also astringents administered internally.

In three weeks no trace of menorrhagia was left; and now a profuse leucorrhœal discharge set in, attended by severe pains in the back, groins, and inside the thighs. Her health has suffered much, and she is entirely confined to her bed.

May 24th.—Transferred to the senior surgeon, Mr. Elliott.

External examination showed the uterus enlarged, and slightly tender on pressure.

Per vaginam.—Uterus very bulky, turgid, and hot; the anterior and posterior lips enlarged, and perfectly hard and smooth: they encroach on the bladder and rectum, thus accounting for the obstruction to the excrementitious matters. By the speculum an ulcer, very superficial, was seen on the anterior limbus, and of the size of a shilling: his, as well as the post limbus, looked livid and swollen. The os uteri much open and corrugated. The examining finger was withdrawn covered by a creamy discharge, streaked with blood.

Treatment.—The os uteri to be scarified every other day on its posterior limbus; the ulcer on the anterior to be rubbed over with Arg. Nitras.—C. C. Lumbis Pot. Iodidi, gr. iv.; Dec. Sarzæ C. ℥j. t. d. As she rests badly at night—Morph. Muriat. gr. $\frac{1}{3}$, o. n.

This treatment was continued from this time to the 18th of June, assisted also by weak injections of Tannin and Infus. Matico, with marked benefit. The uterus has become much less bulky and hot; the leucorrhœal discharge is much less, as is also the pruritus of the external parts; the os uteri is not so much open, and there is a total absence of pains in the back and groins. The only thing that the patient now suffers from is slight leucorrhœa and scalding in the vagina, and also great debility. There is still great restlessness at night, but not so much as before. She was now put on a course of tonics, and at the same time the following injection was ordered:—Liq. Plumbi Diacet. ℥ij.; Dec. Papaveris, Oj. M. ft. Inject. bis terve die injiciend. The scarifications were left off, and the Arg. Nit. only applied.

July 17th.—Uterus normal in size; os uteri closed; no turgidity or heat. Leucorrhœa entirely gone. Has regained her health and strength. Dismissed: a caution being given her by Mr. Elliott strictly to avoid sexual intercourse for a time.

Ulceration of the os and cervix uteri, with engorgement of the body of the womb, and induration of its neck, are now well known to be extremely common; and were an examination always permitted, I am inclined to think that most of the cases treated as simple leucorrhœa would present the appearance of ulceration.

The induration, however, demands our greatest attention, for two reasons:—1st. the possibility of its becoming a nucleus for the deposition of cancerous matter; and 2d. if the woman be not past child-bearing, and should again become pregnant, it would offer a serious obstruction to the passage of the fœtal head through the pelvis, compelling us perhaps to have recourse to the embryospastic, and occasionally to the embryotomic instruments. In all its points I consider this a model case, and showing that unless the disease be far advanced it does not interfere with the general health, and that when it does so, the great influence that local applications have in restoring tone to the system, at the same time also that they restore the uterus to its originally healthy condition.

CASE IV.—*Obstruction of the Intestinal Canal of Four Days' Duration—Death.*

Eli Hetherington, æt. 28; admitted June 26th, under Dr. M'Carogher, with chronic rheumatism of the right knee. Is a stout, hearty follow, with not the least appearance of disease about him.

For the pain in the knee he was treated by the Iodide of Potassium, Colchicum, &c., and at the same time a galvanic current passed through the knee-joint. He continued to all appearance well until the morning of July 19th, when he complained of pain in the epigastric region, with sickness. His bowels had not been open since last night (July 18th). The vomited matters look like the ingesta, and are of a light colour. Dr. M'Carogher ordered—Acid. Hyd. Dil. (Scheelii), ℥ij.; M. Salin. Efferves. ℥j. 4tis horis. Emp. Canthar. reg. Epigast. Hyd. Chlor. et Ext. Col. C. gr. v. h. v.

July 20th.—Complains of pain and uneasiness over the whole abdomen, which is tender on pressure, and slightly tympanitic. The vomiting continues, and the matters ejected are of a green colour, with no smell. Pulse 120, full, but compressible; tongue coated; bowels not open. The patient lies on the side, and does not appear to draw up his knees at all. Countenance anxious, and eyes sunken. Ordered—Mag. Sulph. ℥ij.; Aquæ Calid. Oij. ft. Inject.; Ol. Crotonis, ℥j.; Pulv. Gingib. gr. iij. s. s.; Cont. Mist. sine Acid. Hyd. Dil.

The injection was administered by the house-surgeon. It did not pass up, apparently, any higher than the colon, and almost immediately after returned, bringing with it only a few scybalæ. In the administration of the injection the patient's buttocks were raised, so that if any intussusception existed, the gravity of the water might unravel the intestine.

Vespere.—Vomiting still continues of the same character; pain more acute over the abdomen; no evacuation from the bowels; pulse 120, compressible, but of moderate power.—Hirudines, xxiv. abdomin.; P. c. Med.; Hyd. Chlor. gr. ij.; Pulv. Opii, gr. ¼ 4tis horis.

21st.—No alteration of the vomiting or of the pain in the abdomen, which is now much enlarged and more tympanitic; pulse 120, and not at all reduced in power; tongue almost clean; no evacuation from the intestines; countenance rather more anxious, and the patient now finds relief from lying upon his back, with his knees and shoulders raised. During the day several copious injections were thrown up, but without any effect.—Hirudines, xxxvj. abdom. Cont. Med.

July 22d.—The matters evacuated from the stomach are now decidedly fæculent, and are of a brownish green colour. There is not much action in the stomach, but the fluid appears to be simply spit from the mouth as regurgitation takes place in the œsophagus. There is a total cessation of pain in the abdomen, which is however now decidedly tympanitic. The face of the patient is haggard, and more especially peritonitic than it has yet been. He expresses himself very comfortable, and in a fair way for recovery. Gums slightly tender; pulse more feeble; tongue brownish. Injections were repeated two or three times by means of a long tube, but nothing appeared to pass beyond the colon.—Int. Pil. Cont. Mist.

Vespere.—Vomiting excessive, and very offensive; pulse small, and very feeble; wandering in his mind, and tossing about on the bed; no pain in the abdomen, and no evacuation.—Cont. Mist. At his urgent request a little brandy was now given him, which appeared to revive him *pro tem.*

July 23d.—He has gradually been sinking since last night. His hands and feet are cold; is comatose; pulse scarcely perceptible at the wrist; no vomiting. Died at 12 o'clock, merid.

Autopsy eight hours after death.—*Externally* the body presented nothing peculiar; the abdomen only being large and tympanitic. It is needless to enumerate all the internal appearances, but we pass at once to the—*Abdomen:* a thick layer of fat was interposed between the skin and muscles. On opening the cavity, the intestines were seen enormously distended, and covered with flakes of recent lymph, as were also the walls of the cavity. In some places also the intestines were closely glued together. Two ligatures were placed at the pyloras, and the gut taken out and traced. The ileum and jejunum were the portions so much distended. Nothing remarkable presented itself, until, arriving at the lower portion of the ileum, the bowel, where it merges into the caput coli, for about eight or ten inches in length, was of a deep chocolate colour, and in some parts presenting the appearance of sphacelus. The cause of obstruction now became apparent: old adhesions, and very strong, existed between the mesentery and the abdominal parietes, thus completely fixing this lower end of the ileum to the anterior wall of the abdomen. From some unknown cause an extra knuckle of intestine had became enclosed in this loop, and thus, in fact, caused the obstruction by forming an internal strangulated hernia. The whole course of the canal down to the constricted portion was reddened, but contained no solid matter whatever. The part constricted had its canal nearly obliterated. The colon was empty and flaccid. All the other organs of the abdomen healthy.

This case in the first instance was diag-

nosed as simple peritonitis in a very mild form, and to the alleviation of this the treatment was directed.

On the second day, when the obstruction to the passage of the fæces became so marked, in spite of the injection, &c., it was evident that some portion of the alimentary canal was occluded, either from intussusception or some other cause; although in such a case we should expect the pain to be more localized, and not implicating the whole abdomen. A remarkable feature in this case also was the absence of fæculent vomiting until the third day of the attack.

The adhesion to the parietes had evidently, from its firm and almost fibrous nature, been of long standing, and having become elongated, formed, as it were, a loop through which an extra portion of intestine might pass, as happened here.

Correspondence.

OXIDE OF SILVER IN THE TREATMENT OF CHOLERA.

Sir,—I am not aware whether amongst the numerous remedies that have been used in cholera, any member of the profession has recommended oxide of silver; but reasoning from its powerful astringent powers in checking uterine discharges, &c., I have for the last few weeks been ordering it in numerous cases of diarrhœa accompanied with vomiting, in doses of one quarter of a grain every third hour or oftener, until the symptoms subside, and I may say in most instances found it eminently successful.

This town (as I attribute it), from our excellent sanitary regulations for the last few years, is extremely healthy and free from cholera, and I have therefore had no opportunity of testing the value of oxide of silver in that deadly disease, but through the medium of your journal I will call the attention of medical men practising where the cholera rages, to give it a fair trial.—I am, sir,

Your obedient servant,

Wm. Philpot Brookes, M.D.
Fellow of the Royal Medico-Chirurgical Society, London; and Surgeon to the Cheltenham Hospital and Dispensary, &c.

August 1849.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 16th of August, 1849:—William Clapham Cautley, Hedon, Hull—Thomas Brutton Kenderdine, Stafford—Thomas Edis—William Bellhouse Midwood, Manchester—John Adams Palin—Francis Henry Vertue.

Medical Intelligence.

CONVENTION OF POOR LAW MEDICAL OFFICERS. THE POOR LAW BOARD AND THE GENERAL BOARD OF HEALTH.

Sir,—The great interest now taken on the subject of Poor Law Medical Reform, leads the Committee to beg the favour of your publishing the following correspondence:—

(Copy.)

To the President of the Poor Law Board.

"4 and 5 William IV. cap 76, clause 46. And the said Commissioners may and are hereby empowered, &c. &c. And when the said Commissioners may *see* occasion, to *regulate* the amount of *salaries* payable to such officers respecting, &c. &c.

"10 and 11 Victoria, cap. 109, clause 10. And be it enacted, &c. &c., that *all* the powers and duties of the Poor Law Commissioners with respect to the administration of relief, &c. &c., and *all other powers and duties now vested* in them, shall be *transferred* to, and *vested* in, the *Commissioners*, and shall be henceforward exercised by them under the provisions of this act, &c. &c."

Sir,—The Poor Law Board having the power as evidenced above, "to regulate when they may see occasion the amount of salaries payable to officers respectively," the Committee of the Convention of Poor Law Surgeons take leave to memorialize you, who have already considered the position of Poor Law Medical Officers, that you may issue such orders as may secure a payment to them in accordance with the extent of their duties, and the costs incident to the supply of medicines, and the maintenance of establishments needful for an efficient administration of medical relief to the sick poor.

Although your memorialists have expressed the opinion that a Board specially constituted for the supervision, control, and payment of Poor Law Medical Relief (now extended to near three millions of Her Majesty's subjects in England and Wales), with the whole cost thereof derived from the consolidated fund, would be the best means to secure justice to the Union Surgeons, and the fullest advantage to the sick poor, they are willing to waive for the present this view of the subject, under a sense of the difficulties which beset its immediate introduction.

They beg, however, in the most earnest manner, respectfully to submit to you that an exercise of the authority and power of the Poor Law Board, as shown to exist in the citations from the acts of Parliament, would be equal to such a diminution of their admitted grievances, as might render their

tenure of office and the rigorous performanee of their obligations less painful and humiliating to themselves, and in many ways more beneficial to the suffering poor.

They therefore respectfully suggest—1st. That henceforth the Poor Law Board should by a special order direct that all appointments of medical officers be as durable as their good eonduet and capability and willingness to continue therein.

2ndly. That the amount of payment be based on a calculation of the number of cases attended in a given district during the past three years. That the fixed salaries be arrived at by determining 6s. 6d. as the average sum to be paid per case throughout the country.

That the provisions of the medical order in 1842 for extras, be enforced in all unions; and under all circumstances be made binding, except that to the operations performed in the house be awarded the same fees allowed to out-door cases. Also, that a special provision be forthwith made to secure a just compensation for the enormous extra labours which are entailed upon the Union Surgeons through the Board of Health under its general powers and regulations, more particularly during the presenee of eholera or other epidemics.

We beg to call your attention to the subjoined copy of a letter recently received from the General Board of Health on this subject.

We have the honour to be, sir,

Yours very respectfully,

THOMAS HODGKIN, Chairman.

CHARLES F. J. LORD, Hon. Sec.

July 23d, 1849.

Poor Law Board, Somerset House,
1st August, 1849.

GENTLEMEN,—I am directed by the Poor Law Board to aeknowledge the receipt of the communication signed by you on behalf of "the Committee of the Convention of Poor Law Medical Officers," and to inform you that the suggestions contained in the communication shall receive the best consideration of the Board.

The Committee are, however, so well aequainted with the subjeet of Poor Law Medical Relief, that it is unnecessary for this Board to point out to it the difficulties which exist to any immediate and general alteration or modifieation of the present system.

As regards the suggestion of the Committee, "that a special provision be forthwith made to secure a just eompensation for the enormous extra labours which are entailed upon the Union Surgeons through the Board of Health, under its general powers and regulations, more particularly during the presence of cholera and other epidemics," I am directed to state, that the Poor Law Board are not empowered to lay down any prospective scale of remuneration for such services, but that the power of granting a reasonable compensation on aecount of extraordinary services is vested in the Guardians with the approval of this Board, by the proviso to article 172 of the General Consolidated Order, and that such power has already been acted upon in several instances.—I am, gentlemen,

Your obedient servant,

W. G. LUMLEY, Assist. Sec.

Thomas Hodgkin, Esq., Chairman;
and Charl s F. Lord, Esq., Hon.
Sec. of the Committee of Poor
Law Medical Officers.

It should be observed that no "prospective scale of remuneration" was sought from the Poor Law Board by the Committee. The memorial and application for relief arose less from the additional labours which an alarming epidemic like the cholera must induce, than from the vexatious returns and reports of cases for the public advantage, and the liability of the Union Surgeons under orders from the General Board of Health to examine nuisances, and to report as Offieers of Health.

The provision of article 172 of the General Consolidated Order might certainly be sufficient to provide adequate remuneration to Medical Officers; but experience has proved, over and over again, that merely *permissive* elauses will not reach the existing evil, admitted by all concerned to be very great.

The answer from the General Board of Health, in reply to the Committee, appeared in your number of July 21st; it throws the onus of providing for the medical officer upon the Poor Law Board: this Board politely hand the case over to the Boards of Guardians. Mr. Mitchell's experience may be considered an average sample of the mode in whieh these functionaries will deal with applications for advanced payment to medical offieers. "Mr. Mitchell had been the medical officer to the Parish for 18 years. *Three-halfpence* per cholera case, whether occurring night or day. He made equitable propositions to the Board, but the Lambeth Guardians paid no attention: in consequence he sent in his resignation, whieh was accepted!

Seeing the Union Surgeons thus bandied from one Board to another, and as a body redressed by none, the simple adage of "a fall between two stools" occurs to the mind, and even a saying of the quaint William Cobbett, about "John Bull" being persecuted by two sets of thieves, the Whigs on the one side, and the Tories on the other.

It is gratifying, however, to turn for a moment from this dark shadowing to the light whieh breaks in from the Union, to which Mr. Vallance, the intrepid advocate of

a better system of Poor Law Medical Relief, is the well-tried medical officer. He reports, to the credit of the Board of Guardians of the West Ham Union, that a sense of justice has impelled them to pay £1. per case of cholera to whomsoever the professional attendant may be; and also 15 per cent. (for six months) upon the annual amount of the salaries paid to their medical officers, as some remuneration for their services as officers of Health. If other Boards would obey the injunction of ancient writ, "go and do thou likewise," there would be less cause to trouble you with these details.

I have the honour to be, Mr. Editor,
Your very obedient servant,
CHARLES F. J. LORD, Hon. Sec.

4, Hanover Square,
August 13, 1849.

FIFTH NOTIFICATION OF THE BOARD OF HEALTH REGARDING CHOLERA IN THE METROPOLIS.

THE prevalence of Asiatic cholera in the metropolis, and in England generally, up to June was limited to comparatively few localities, beyond which it did not spread; but its outbreak, wherever it appeared, was generally violent, the proportion of the attacks being very great, and, in some instances, as in the establishment at Tooting, in several lunatic asylums, and in some workhouses and prisons, the numbers seized were so large as to indicate a true epidemic tendency. In other countries, though it appears that the pestilence has created less alarm, it has spread more extensively, and been more fatal than on its former visitation; and since the middle of June its progress in England and Wales has proved that here also the epidemic force is greater than it was in 1832.

Notwithstanding the representations addressed to the local authorities charged with carrying out the regulations made under the authority of the Legislature for preventing the localization and spread of epidemic diseases, that the seats and subjects of cholera and the seats and subjects of typhus are generally the same, in almost every instance where attacks have been made in groups of cases it has been found that the preventive measures enjoined by the General Board of Health in November last had not been commenced until after the actual outbreak of the disease.

Yet had the preventive measures—founded on the provisions of the Nuisances Removal and the Diseases Prevention Act—been carried into effect without delay, and to the greatest practicable extent, there would still have remained in many localities sanitary evils of the greatest magnitude, wholly irremovable under this Act, and for which the only remedy is the Public Health Act. In the instances, however, in which the cleansings, the removal of nuisances, and the other preventive measures authorized and required by the former act have been enforced, the results have been proportionately beneficial.

Wherever the disease has spread extensively through any district, or has been localized in a court or street, or has appeared in groups in the same dwellings, the inspectors on examining the locality have uniformly reported the existence of filth, bad ventilation, overcrowding, and other local causes of atmospheric impurity.

And whenever, by intelligence and energy, these localizing conditions have been changed, particularly when under the direction of an inspector, the further regulations enjoining the special preventive measures of house to house visitations and immediate treatment of the premonitory symptoms, have been faithfully carried out, the pestilence has been checked, and in some instances it has been abruptly and finally terminated in the course of a few days; but, on the other hand, in several instances when, after the departure of the inspector, the house to house visitation has been suspended, and when consequently the early detection and treatment of the premonitory cases have been no longer possible, the disease has again broken out with renewed force.

From the report of the General Board of Health recently presented, "On the measures adopted for the execution of the Nuisances Removal and Diseases Prevention Act, and the Public Health Act, up to July 1849," it appears that bad sanitary conditions have in numerous instances localized the epidemic to such an extent that, alike in cities, towns, and villages, almost the entire population have been simultaneously affected with the premonitory symptoms of the disease. In these instances, until the house to house visitation has been systematically and energetically carried out, great numbers of the premonitory cases have continued to pass into the developed and fatal stage; but as soon as by this agency the disease has been detected where it was secretly forming, and has been immediately placed under treatment, its progress has been arrested, so that it has seldom gone on to developed cholera. Thus, in one instance, out of 13,089 premonitory cases discovered by the system of house to house visitation, and reported as having been placed under treatment, only 80 are stated to have passed into cholera. In another instance not a single death occurred out of 1,380 cases of premonitory diarrhœa brought under early treatment; but when diarrhœa has been neglected until vomiting has come on, the mortality has risen to 7 per cent., and has increased progressively, according to the

length delay, of to 39 per cent.; while in instanees in which it has not been brought under treatment until the evacuations have become serous, and have been accompanied with cramps, 53 persons have died out of every 100: facts which, it has been justly stated, establish the unity of the disease and its progressive danger.

There is, indeed, undoubted evidence that occasionally individuals are attacked quite suddenly, without any previous warning; but this almost always oecurs only on the first outbreak of the disease in a loeality, and happens chiefly to those who are living under peculiarly bad sanitary conditions, or are of intemperate habits. In the great majority of instances distinct warning of the approaeh of the disease, in time for the adoption of effectual remedies, is given.

Proceeding on these results of experience, the General Board of Health have deemed it their duty to enforce, as far as was within their power, the observance of the regulation enjoining house to house visitation, satisfied that it is the means of saving life, and that the eost of carrying it into effect is incomparably less than that which must otherwise be incurred for the mitigation of sickness, and the support of the permanent pauperism oecasioned by orphanage and widowhood.

There are, however, houses and localities in whieh the predisposing and localizing conditions exist in such intensity, that until their sanitary state is wholly changed no measures will succeed in preventing the development of the disease. In these eases the only remedy is the dispersion of the inhabitants, and the removal of the destitute to houses of refuge until their own abodes are eleansed and purified aceording to regulation No. 15, issued in November last.

Seeing the continued progress of the disease, and its extension to numerous new localities which appeared to have escaped during the visitation of 1832, the General Board of Health again earnestly repeat the cautions given in their first and second notifieation with reference to diet, elothing, and the general means of maintaining health and vigour. For reasons already fully stated, the articles of food, where there are the means of choice, should be solid, nutritious, invigorating, and concentrated, tending to maintain moderetely costive bowels—a state whieh experienee has shown to be more conducive to exemption from cholera than an opposite habit. Great care and due moderation in food and drink are essential to safety during the whole duration of the epidemic period. Partieular attention should be paid to the avoidance of cold and damp, and to maintaining the sitting and bedrooms well aired, dry, and warm. Every day's expe-rienee shows the urgent nccessity of instant attention to the slightest degree of diarrhœa. At a time when there is the danger that looseness of the bowels may be the commencement of such a disease as Asiatie cholera, a due regard to his own safety should induce every one having this premonitory symptom to apply without delay for medical assistance; but an attack may come on in the night, or under circumstanees in which medical assistance cannot be promptly obtained; in this case life may depend on having proper medicine at hand to be administered at once. In places in whieh the pestilence has been recently prevailing, great advantage is stated to have arisen from following the recommendation given in a former notification, to place proper medicine in the custody of the heads of families, the masters of schools and workhouses, the owners or overseers of large establishments and manufactories, clergymen, and other intelligent persons; but sueh medicine should be simple in its nature, and administered only at times and under circumstances when medical assistance cannot be promptly proeured. Experience appears to have suggested no better form of medicine, to be given under these cireumstances, than that formerly recommended—viz., for an adult, from 10 to 20 grains of the confection of opium, mixed with two table-spoonfuls of peppermint water, or with a little weak brandy and water; or a draught eomposed of one ounce of chalk mixture, with 10 or fifteen grains of the aromatic confection, from 5 to 10 drops of laudanum, and from half a drachm to a draehm of tincture of cateehu. Such a dose should be taken when there is any degree of relaxation of the bowels, or when there are more than two stools in the 24 hours.

But these medicines are recommended only when medical assistanee eannot be proeured at once; and in all eases, wherever praeticable, even in the very earliest stage of the disease, recourse should be had to medieal advice on the spot. Confinement to bed at once is a very good precaution, and warm applications where there is coldness of the extremities.

It may be neeessary to repeat the caution against the use of cold purgative medicines, such as salts, particularly Glauber salts, Epsom salts, and Seidlitz powders, whieh, taken in any quantity in such a season, are dangerous. Drastic purgatives of all kinds should be avoided, such as senna, coloeynth, and aloes, except under special medieal direction.

If, notwithstanding these preeautionary measures, a person is seized suddenly with cold, giddiness, nausea, vomiting, and cramps, under circumstances in which instant medical assistance cannot be procured, the eoneurrent testimony of the most experienced

medical authority shows that the proper course is to get as soon as possible into a warm bed; to apply warmth by means of heated flannel, or bottles filled with hot water, or bags of heated camomile flowers, sand, bran, or salt, to the feet and along the spine; to have the extremities diligently rubbed; to apply a large poultice of mustard and vinegar over the region of the stomach, keeping it on fifteen or twenty minutes; and to take, every half hour, a teaspoonful of sal volatile in a little hot water, or a dessert-spoonful of brandy in a little hot water, or a wine-glass of hot wine whey, made by pouring a wine-glass of sherry into a tumbler of hot milk: in a word, to do everything practicable to procure a warm general perspiration until the arrival of the medical attendant, whose immediate care, under such circumstances, is indispensable.

For reasons assigned in their first notification, the General Board of Health have not deemed it necessary or proper to give instructions for the treatment of the advanced stage of this disease.

The present emergency has greatly increased the labour imposed on the union medical officers, who complain that no provision is made for their additional remuneration. Very serious, and even fatal, consequences have followed to the poor from the disputes which have arisen about remuneration for extra services. All cases of cholera, or of premonitory symptoms, should be attended at once without a relieving officer's note, and arrangements should be made accordingly. The general Board of Health would recall the attention of the guardians to the former representation of the board on this subject—namely, "seeing the many and arduous duties that devolve upon the medical officers, the board cannot but express their hope that the remuneration of these officers will be more proportionate to the value of the required services."

In the words of their first notification the General Board of Health would again urge the consideration, that whatever is preventive of cholera is equally preventive of typhus and of every other epidemic and constantly recurring disease, and would earnestly call the attention of all classes to the striking and consoling fact that, formidable as this malady is in its intense form and developed stage, there is no disease against which it is in our power to take such effectual precaution, both as collective communities and private individuals, by vigilant attention to it in its first or premonitory stage, and by the removal of those agencies which are known to promote the spread of all epidemic diseases. Though, therefore, the issues of events are not in our hands, there is ground for hope, and even confidence, in the sustained and resolute employment of the means of protection which experience and science have now placed within our reach.

By order of the General Board of Health,
HENRY AUSTIN, Secretary.

August 17, 1849.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE nineteenth meeting of the British Association for the Advancement of Science will commence in Birmingham on Wednesday the 12th of September, 1849.

The general committee will meet on Wednesday the 12th of September, at one P.M., for the election of sectional officers, and the dispatch of business usually brought before that body. On this occasion there will be presented the report of the Council, embodying their proceedings during the past year. The general committee will meet afterwards by adjournment.

The first general meeting will be held on Wednesday the 12th of September, at 8 P.M., when the President will deliver an address; the concluding meeting on Wednesday the 19th of September, at 3 P.M., when the association will be adjourned to its next place of meeting.

At the evening meetings, which will take place at 8 P.M., discourses on certain branches of science will be delivered, and opportunity will be afforded for general conversation among the members.

Excursions will be made for the purpose of examining places interesting to geologists and naturalists, and industrial establishments remarkable for the application of chemical and mechanical science.

The committees of sections will meet daily, from Thursday the 13th of September to Wednesday the 19th of September inclusive, at ten A.M. precisely.

The sections will meet daily, from Thursday the 13th of September to Tuesday the 18th of September inclusive, at 11 A.M. precisely.

Reports on the progress of science, and of researches entrusted to individuals and committees, and other communications intended for presentation to the sections, are expected to be forwarded in letters addressed to the *Assistant General Secretary, Birmingham*, previously to the meeting, accompanied by a statement whether the author will be present, and on what day, so that the business of the sections may be satisfactorily arranged.

The reports complete, and careful abstracts of other communications, are to be delivered to the secretaries of the sections before which they are read, previously to the close of the meeting, for publication in the Transactions. As the reports on science may be interesting to more sections than the one which originally called for them, it is desirable that the authors should be prepared to furnish the

means of reading them in any other section at the request of the President and Secretaries of that section.

The following are the sections to which communications may be presented :—

a. Mathematics and Physics.

b. Chemistry and Mineralogy, including their applications to Agriculture and the Arts.

c. Geology and Physical Geography.

d. Zoology and Botany, including Physiology.

e. Ethnology.

f. Statistics.

g. Mechanical Science.

THE CHOLERA IN IRELAND.

The last accounts from Sligo mention that the cool weather of the last three days has done much towards staying the progress of the malady, which, however, was still raging to an alarming extent. Within 24 hours there had been 17 new cases in the poor-house, while in the town the numbers showed a considerable diminution. Among the earliest victims was Dr. Thomas Little, an eminent medical practitioner, whose death appears to have created great sorrow among all classes of the inhabitants. The disease still lingers in Dublin and Belfast; but its virulence has materially abated, although even within the present week several respectable residents of both cities have been swept away after a very short illness. Mr. George Suffern, ex-mayor of Belfast, and a candidate for the representation of the borough at the last general election, was seized with the malady while waiting as one of a deputation in the ante-chamber of the Throne-room at Dublin Castle. He at once hastened home and lingered until Tuesday, when the attack terminated fatally. Miss Suffern, the only sister of the ex-mayor, who never left his bedside during her brother's illness, was attacked with cholera the day after his decease, and died on Thursday morning, in the 59th year of her age, after nine hours' suffering.

MORTALITY FROM CHOLERA IN PARIS.

The tables of mortality published in Paris for the first six months of 1849, and addressed to the Academy of Medicine by the Prefect of Police and the Minister of the Interior, show that during that space of time 33,274 persons died in Paris, of whom 15,677, or nearly a moiety, died of cholera morbus. Of these 15,677 deaths from cholera, 9,019 took place in private dwelling houses, 7,740 were individuals of the male, and 7,937 of the female sex, which is tantamount to saying that the female sex has suffered rather more than the males from the cholera morbus, as was the case in the year 1832. The *Union Médicale* states that in the civil and military hospitals 3,498 men, and 3,160 women died; whilst in private dwelling houses there were 4,242 deaths amongst males, and 4,777 amongst females. If to the 15,677 deaths registered up to the end of June we add the 790 deaths in the month of July, and the 453 in the month of August, we find, up to the 15th of August, a total number of 16,920 deaths against 18,556 from the same disease in the year 1832. The only difference was this, that in the epidemic of 1832 nearly three-fourths of the deaths, *i. e.* 12,741, took place in a single month (March), whilst in the present year the months of April, May, and June, the two latter especially, have presented a very large number of deaths.

QUEEN'S COLLEGES, IRELAND. APPOINTMENT OF DR. FLEMING.

Dr. Alexander Fleming, M.D., of Edinburgh, has been appointed to the Chair of Materia Medica, Queen's College, Cork. Dr. Fleming is the author of a "Treatise on the Aconitum Napellus," which was very favourably received by the profession in Britain and on the Continent. Since the appointment of Dr. Bennet to the Chair of Physiology, Dr. F. has acted conjointly with Dr. W. Gairdner as editor of the "Monthly Journal of Medical Science."

Dr. Ronalds, of the Middlesex Hospital, has also been appointed Professor of Chemistry in the Queen's College, Galway.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 17th inst. :—J. A. Kingdon—T. Mills—C. W. S. Large—W. W. Thetford—J. Hannan—C. C. Moore—B. T. H. Bell.

OBITUARY.

MEMOIR OF THE LATE SIR CHARLES SCUDAMORE, M.D. F.R.S.

Sir Charles Scudamore was born at Wye, in Kent, in 1779, and married, in 1812, Georgina, second daughter of Robert Johnson, Esq., of Finchley, Middlesex.

The family of Scudamore is of great antiquity, and claims descent, through the Kentish branch, with the ancient house of Holm Lacy, in Herefordshire. The subject of our present memoir received his early education at Wye College, under the Rev. Philip Parsons, and there distinguished himself by his assiduity in the study of the classics, English literature, and the Belles Lettres; he afterwards commenced his medical studies under the tuition of his father, a highly esteemed medical practitioner at Wye, and an elegant scholar. Sir Charles's energies were in due time transferred to a more extensive field, and the area of the Borough hospitals being the chosen theatre, and Cline, Saunders, Babington, Cooper,

and other distinguished men his teachers, his thirst for medical knowledge increased, and his acquirements became enlarged. After remaining three years at the United hospitals of Guy's and St. Thomas's, where he gained the esteem of his teachers, he established himself at Highgate as a surgeon, which step he considered only as a preliminary one to the higher views on which, from the commencement of his medical studies, his mind had been fixed. Remaining a few years at Highgate, he fulfilled his desire of acquiring professional experience, and proceeded to Edinburgh, where he devoted himself to his studies with intense ardour, and acquired great distinction there. At Glasgow he took his degree, and wrote an elaborate thesis on Gout, which he dedicated to Dr. Babington, of London, and to Dr. Browne, the celebrated Professor of Moral Philosophy in Edinburgh. Dr. Scudamore then returned to London to practise as a physician, residing first in Holles Street, and shortly after in Wimpole Street, where he remained until his death. Soon after coming to London, he published an Analysis of the Mineral Waters of Tunbridge Wells, in which he was assisted by his friend Mr. John George Children; also the first edition of his work on Gout, which he dedicated to Dr. Matthew Baillie. This work quickly gained for its author a high reputation, was eagerly sought for, and passed through four editions in the course of six years. In the next five years his practice became much increased: his patients (from the nature of the disease in which he had become so eminent) were of a high class: amongst them might be enumerated a large number of the nobility and leading men of the day. He was appointed Physician in Ordinary to His Royal Highness Prince Leopold of Saxe Cobourg in 1820, and to the Duke of Northumberland, when Lord-Lieutenant of Ireland, from whom he received the honour of knighthood; he was also made an Honorary Member of Trinity College, Dublin, of the Imperial College of Vienna, of the Medical Society of Paris, Fellow of the Royal Society of London, &c.

Among numerous works on different diseases published by Sir Charles, may be mentioned—"A Treatise on the Nature and Cure of Rheumatism and Tic Douloureux;" "An Essay on the Blood," containing many original observations, and displaying much physiological and scientific research; "Observations on the Stethoscope and Percussion," published after he had studied the subject in Paris, under Laennec; "An Analysis of all the Important Mineral Springs in England;" "A Treatise on the Mineral Waters and Tepid Springs of Buxton," in which last work he was assisted by Mr. Garden (the well-known chemist of Oxford Street, London); and two short treatises, containing the result of his extensive experience in gout, and on the use and abuse of colchicum in the treatment of that disease. His later works were on the use of the inhalation of iodine and conium in phthisis, and an account of a medical visit to Gräfenburg made in 1843 for the purpose of investigating the merits of the water-cure treatment: the last contribution to medical science published by him was a work on pulmonary consumption.

Sir Charles was attacked with spasmodic asthma in January last, and more recently suffered from granular disease of the kidneys, and valvular disease of the heart, from which latter affection he died suddenly on the 4th instant, much regretted and beloved by a numerous circle of friends.

OBITUARY NOTICE OF DR. THACKERAY.

It is with unfeigned regret we have to announce to the public the death of Dr. Thackeray, who, after a long and most painful illness, died at his house in Nicholas Street, Chester, on Sunday morning, July 29. He was born at Cambridge on the 15th of April, 1770.

An eminent physician naturally holds a high place in the society of a provincial town; and if that influence is increased by the personal qualities of the individual, and extended by a protracted life, it is hardly possible to conceive any one round whom the combined feelings of gratitude, regard, and veneration, will collect a larger amount of interest. Such has been the case in Chester in days still remembered by its inhabitants,—and such in no ordinary degree was the case with the lamented subject of the present notice. Beyond the respect due to his professional skill, and the influence which was gained by the liberality in which it was exercised, Dr. Thackeray has established claims on the good will of his fellow-citizens by a long series of services rendered to the public, and by a spirit which rendered him alive to every call where the good of the community might be promoted. To his fostering care, and to the prudence with which he managed its concerns, that excellent institution the Blue-Coat School owes its present prosperity, if not its present existence. Unwearied in his exertions, he was always at his post when the Monthly Board required his attendance; and he exhibited as much attendance to the details of internal management as he did to its general maintenance. In all the other charitable institutions of the city, he took the same lively interest; and at a period when most men would have pleaded, and many would have felt, that increasing infirmities and aggravated pain justified absence, he seemed re-

solved to labour while life lasted, and to devote the little strength that was left to the cause which he had originally promoted in his more vigorous days.

For all these varied offices he possessed peculiar qualifications. A warm heart, and a strong mind, found in him a frame capable of great labour; a voice that could always make itself heard, and a constitution which proved its strength by the protracted struggle it sustained with agonizing pain; and if his warm feelings ever carried him beyond that limit which the strict letter of courtesy requires, those feelings were sure to redress the apparent wrong, and to soothe the spirit which had been borne down by the vigour of his address, by the frankness of his apology.

In those hours of retirement from professional duties which he had the wisdom to claim, Dr. Thackeray entered largely into the pursuit of agriculture. As a scientific planter he ranks high amongst those who have contributed to that branch of natural wealth. He lived to see a wide extent of the hilly country near Mold covered with trees raised from acorns of his own sowing; and had reason to pride himself on the success of a system, which had turned a waste into a forest, during the life of him who undertook the work.

We have hitherto merely glanced at what the world saw, and what the world knew of Dr. Thackeray as a public character; and perhaps it is due to the delicacy of domestic life, that a public testimonial should be limited to public qualities, and leave the rest to be conjectured from what has been already said. The many, however, who knew what he was in private life,—who knew the tenderness of his feelings, the warmth of his affections, his exemplary discharge of every private duty, would feel that the most important features in the portrait were omitted, if these were not noticed. Let it be enough to say, that the man who in public was always loud in denouncing what he thought was wrong, strenuous in contending for what he deemed to be right, and who seemed made for the rough tumult of political or civil strife, was at home indulgent, forbearing, and forgiving; the tenderest of parents, the most affectionate of brothers, a hearty friend, an indulgent master; concealing his own sufferings lest pain should be caused to those who loved him, and as patient and submissive under infirmity and agony as he had been active and energetic in the business of life.

Such union of qualities, naturally so diverse, and in themselves so opposite, can, we believe, flow but from one principle, and that the best and highest. The calmness with which he contemplated death did not arise from any desire to escape from sufferings which were hardly to be borne, for he despised the pain which was wearing out his strength, and conversed with cheerfulness as soon as the paroxysm was over; but it was, we may believe, the fruit of reliance on Him whom he had known to be sent into this world to seek and to save that which was lost.

At the monthly meeting of the Governors of the Blue Coat School, on Monday, the following resolution was entered on the books of the institution:—"That this Board takes the first opportunity of expressing a deep sympathy on the death of Dr. Thackeray, one of the oldest, most liberal, and most devoted friends of this Institution."

Such is the impression produced upon his immediate neighbours and friends; but to this Association he is more immediately illustrious, as the liberal donor of the Thackeray Prize of fifty pounds, in 1837, which was thrown open to the competition of the members of every accredited school for medicine and surgery in the United Kingdom.—*Provincial Journal.*

MR. C. ASTON KEY.

It is with the deepest regret that we announce the death of this eminent surgeon, after a very short illness. The melancholy event took place at his residence in St. Helen's Place yesterday morning (23d) at 7 o'clock.

DR. H. C. DUCKLE.

On the 2d inst., at Caen, Normandy, Henry Charles Duckle, of Pilham Hall, Gainsborough, Esq. M.D., in the 46th year of his age.

Selections from Journals.

OBSERVATIONS ON HYDROPHOBIA, WITH CASES, IN ONE OF WHICH CHLOROFORM WAS ADMINISTERED WITH A FAVOURABLE RESULT.

Dr. Jackson, Professor of the Institutes of Medicine in the University of Pennsylvania, records the following cases:—

1. David Lithgow, thirty years of age, of sanguine temperament, light eyes and hair, large frame, well-developed chest and limbs, after some violent exertion, was on March 17th, 1834, seized with uneasiness in the back of the neck and shoulders, with pain and numbness of the arms. A month or two previously he had received a bite from a dog, but so slight that he had lost all remembrance of the occurrence; no scar remained. On the following day, the 18th March, he became feverish, but could drink water. He was bled, and took calomel and opium. On the next day, the 19th, in attempting to swallow his medicine, he could not succeed, from spasm in the throat. After this all attempts to swallow fluids or solids increased the spasms, and even a draught of cold air

induced violent convulsive action of the muscles of respiration. The pupils were contracted; the face flushed; the perspiration pouring in streams from his face; his tongue moist and slightly furred; pulse 68, soft; bowels open. Six moxas were applied to the back of the neck, and morphia was given in large doses. Notwithstanding these measures the symptoms became aggravated, and the spasms now occurred without an exciting cause. His mind was irritable and impatient. He was positive he could swallow a piece of bread soaked in water, and made many ineffectual attempts to bring it to his mouth: the effort threw his whole body into violent convulsive jerks, by which he was thrown several feet backwards; he was tossed about the room until he fell on a low bed in violent strangling spasms. In a paroxysm of this kind, which lasted several minutes, he breathed his last.

On examining the body twenty-two hours after death, slight amount of morbid change was found. A belt of deep purple hue, about an inch and a quarter wide, surrounded the pharynx, terminating below in a well-defined line on a level with the inferior edge of the cricoid cartilage; above, its termination was irregular, and merged into the rest of the pharynx. The lower part of the epiglottis was scarlet, the mucous membrane of larynx deep red, the trunk of the par vagum healthy.

The medulla oblongata was white, firm, and drier than natural; the cineritious portion pale; large clots of blood were seen in its substance; and, on cutting it open longitudinally from behind, numerous transverse fissures filled with blood were observed. The spinal cord was not examined. Other parts healthy.

2. Cornelius Wecks. In this patient the spasms were very violent for the first forty-eight hours after his admission into the hospital, but from the effects of chloroform they were moderated. This patient, however, gradually sank, and died as if by malignant fever.

3. Mrs. Burrows, thirty years of age, black hair and dark eyes: of nervous temperament, but firm and resolute. Has been married seven years, and had four children. In the month of July last, in rescuing her child, which was attacked by a dog, she received a bite on the hand; two slight punctured wounds were made, they healed, and no further attention was given to the circumstance. In October the faint cicatrices became red, swollen, and painful; one suppurated, and again healed, the other remained hard and painful, pain extending up the arm to the shoulder; in a few days the whole became swollen and painful, and a small tumor formed on the inside of the arm about two inches below the axilla. On the 27th October, she was surprised, on attempting to drink a glass of cold water, by a shuddering sensation, which, however, passed off, and she thought no more about it. She afterwards crossed the river to visit her parents; while on the water she felt a singular uneasiness and dread, which she could not understand. In the evening, feeling unwell, she intended to bathe her feet, but on attempting to try the temperature of the water by the hand, she was seized with a violent shuddering and sense of dread. Soon after, on attempting to drink cold water, violent spasm of the throat, and a sense of suffocation, occurred. The spasms recurred at intervals, and were accompanied with a noise bearing some resemblance to the bark of a dog. There was no fever; the pulse 70; skin cool. She complained of pain in the throat, and hoarseness.

On the 29th of October the patient was apparently better, cheerful, calm, collected, and even gay. The spasm had not occurred since the previous evening, notwithstanding that she had drunk water several times, though with some little difficulty. Has entirely lost all sensibility of the surface of the right arm below the deltoid, though there is deep-seated pain in the course of the nerves, with slight spasmodic twitching of its muscles. The treatment adopted was, sinapisms to the epigastrium, cups to the nape of the neck, assafœtida enemata, and a drachm and a half of chloroform in emulsion every hour.

On the 30th, the spasms returned with every attempt to swallow. Agitation of the air behind her caused severe spasms of the trunk, in which she tossed about the bed, gnashing her teeth, and plunging her head into the pillow and bed-clothes, biting and tearing them. While in this paroxysm, chloroform was applied to the mouth and nostrils on a sponge, and the full effect was produced; she fell perfectly insensible, every muscle in complete relaxation, and the respiration easy and natural. After this remission the inflamed cicatrix was cut out, and the parts cauterized. A spasm followed the operation, but chloroform again removed the symptoms. The chloroform was administered every time the spasms threatened a return.

Her hearing and sight, which are usually rather defective, were unusually acute during the entire attack. She stated her feelings to be difficult to describe, being a dread of something, she knew not what,—that during the attacks a feeling appeared to start from the cicatrix, ascend the arm, pass down the chest, and strike into the stomach: during her recovery its course was reversed; it would pass from the stomach to the wound. The wound suppurated freely; purgatives were occasionally given; the patient gradually improved, and had quite recovered her health by January last.

4. This case is reported by Dr. Parkman, of Boston, U.S.

Mr. W. H. B., aged eighteen years, dark complexioned, of good health and habits: was bitten on the wrist by a dog on the 29th of July last. On Nov. 4th his arm became painful. On the 6th he was unable to swallow water without severe spasm and sense of suffocation. All the symptoms of hydrophobia rapidly supervened. His skin was cool; pulse 120, and small; the tongue furred; stomach nauseated; mind clear. The cicatrix of the wound somewhat elevated and reddish, without soreness; skin around it not inflamed; pain in the arm, extending to the shoulder. The sight of water, or hearing the name of any liquid mentioned, was most terrible to him; the sound of fluids in an adjoining apartment produced the same sad results; as did also a current of air. Chloroform was administered, but only slightly retarded the progress of the disease, which terminated fatally on the 8th Nov., with all the symptoms of cerebral congestion.

Autopsy eighteen hours after death.—The brain and spinal cord were highly injected, but otherwise healthy. The trachea and bronchi were inflamed; the epiglottis was very large.

Observations.—These cases exhibit hydrophobia, which is a nervous symptom, in its connection with rabies. It may be distinct, and occur as a hysterical symptom in simple nervous disease. Lithgow's death was supposed by Dr. Jackson to have occurred from air in the vessels. Weeks's from adynamia and ataxia, produced by rabific poisoning. Mrs. Burrows's the author justly regards as one of rabies, and partaking neither of a hysterical or tetanic character. The chloroform produced beneficial effects by arresting the spasms, but that it cannot be relied on as a curative agent is shown from the last case related. Removal of the cicatrix doubtless contributed to her recovery. The most striking phenomena in these and other recorded cases was, the exalted and perverted action of the functions of the medulla oblongata connected with respiration and deglutition.

Dr. Jackson remarks that the occurrence of spasms is often determined by the presence of many visitors and attendants. The patient Lithgow stated that when entirely alone the spasms did not occur.

We may add, that, interesting as are the above cases and observations, they throw but little additional light on the pathology of the disease. The dissections have revealed nothing peculiar to, or pathognomonic of, the preceding fearful catenation of symptoms.—*American Journ. of Med. Sciences*, April 1849. —— χ

MEDICO-LEGAL OBSERVATIONS ON DRUNKENNESS AS A COMPLICATION OF WOUNDS. BY DR. TARDIEU.

Fodéré's precept "that whatever does not belong essentially to a wound should not be imputed to the person inflicting it,"* governs the present medico-legal doctrines with regard to wounds. Hence it follows that a medical man should determine with equal precision the character of the traumatic lesion, and the particular conditions under which it was received. The circumstances which may variously influence the prognosis of wounds, constitute the chief problem in the medico-legal study of injuries. The importance of becoming acquainted with these circumstances is obvious, when we consider how frequently they may present themselves to our observation. M. Devergie,† in his important work on Sudden Death, pointed out that drunkenness was the determining condition in fourteen out of forty cases. M.M. Royer Collard and Ch. Roesch have also shown that the alcoholic poison causes death through the simultaneous agency of the blood and nervous system.

Dr. Tardieu proposes to determine the lesions peculiar to this cause of death,—first demonstrating the part which inebriation performs while complicating a traumatic lesion, in a medico-legal point of view, and that principally, with reference to the criminality of the act, and the culpability of its author.

Although the facts now under consideration are by no means rare, science is in possession of but few, from the circumstance of sufficient attention not having been directed to a subject so deeply interesting; previous observations have too often wanted these anatomical details which alone constitute their value.

Case I.—*Contusions—rapid death—intoxication—meningeal apoplexy.*

The Sieur D., being on guard at Charenton, St. Maurice, May 23, 1848, entered the station in a state of intoxication, being so furious that it was necessary to keep him under restraint during the whole night. He had not come to himself by the next day, and, being carried to his home, he died at the end of two hours. On his head were found the traces of slight contusions, and his relatives attributed his death to the effects of blows and injuries which he had received.

The autopsy decided that death had not happened as the consequence of these supposed injuries, but from a considerable effusion of blood in the sac of the arachnoid and cavities of the ventricles.

* Traité de Médecine légale, 1813. Tome iii. p. 264.

† Annales d'Hygiène, &c. Tome xx. p. 145.

CASE II.—*Injuries resulting from a fall—death by meningeal apoplexy following intoxication and cold.*

—— Goyer, aged sixty years, was found dead on one of the Boulevards on the night of the 11th and 12th of March, 1847, which was intensely cold. The body, when taken to the Morgue, exhibited the following injuries: A contused wound at the back of the head upwards of four inches in length and three in width, with irregular edges, and filled with dirt and sand. There was neither depression nor fracture of the skull. Ecchymosis and excoriation were present about the nose and upper lip, and on the knees and elbows. Considerable serous effusion existed beneath the arachnoid over the whole cerebral surface. But little effusion had taken place into the ventricles,—at the base of the brain was a coagulum of blood enveloping the medulla and pons Varolii. A distinct odour of alcohol was perceived in the cranium. Lungs were rather loaded, the heart emptied of blood, the stomach was distended with wine and undigested food.

CASE III.—*Wound of the head resulting from a fall — intoxication—death from cerebral and pulmonary congestion.*

The subject of this case was an habitual drunkard, aged 44 years. He fell from his seat in a state of intoxication, cut himself near his eye in the fall, and died in about half an hour afterwards. Examination of the body found no other wound. The superficial vessels of the dura mater and brain were loaded with blood. The pia mater was infiltrated with a great quantity of sanguinolent serous fluid, and here and there on the surface of the convolutions, behind, and at the base of the brain, were thin layers of blood. The cerebral substance was deeply injected, and exhaled a distinct odour of alcohol. The lungs were gorged with black blood, which flowed abundantly from their friable tissue, and at different points were extravasations of black blood. The heart was small, its left ventricle empty. The stomach contained the remains of some fruit and brandy.

From this examination it was concluded—1. That death was caused by the cerebral and pulmonary congestion, probably induced by intoxication. 2. That the fall was the effect rather than the cause of this congestion.

CASE IV.—*Fall—intoxication—contusions—sudden death—meningeal hæmorrhage—pulmonary apoplexy.*

In this case the individual, having been drinking to excess, quarrelled with his wife, and was soon afterwards found dead at the foot of a ladder, by which he had attempted to mount into a loft.

Post-mortem examination. — Neither wounds nor fracture of the skull were found, only a few bruises on the occiput and back. Meningeal apoplexy on the right side of the brain; incipient softening of the substance of the wall of the right ventricle; congestion and apoplexy in the left lung; hypertrophy of the left ventricle of the heart; dilatation of the right side. The stomach was full of wine and food.

CASE V.—*Contusion—suspected poisoning—intoxication—apoplexy.*

A widow, at Montmatre, who had long abandoned herself to excessive drinking, and had suffered much from disorders of the stomach and headache, died on the third day after sudden aggravation of her ailments, on the 5th April, 1847. Poisoning by opium having for some reason been suspected, a judicial examination was ordered, and entrusted to Drs. Bayard and Tardieu.

Autopsy.—Face and lips pale; slight alteration of features; no wounds or bruises. On the left hand and wrist were ecchymoses to between two and three inches in extent, also some on the back of the hand, and at the root of the second and third fingers. Similar ecchymoses, the results of bruises, were also found on the left knee and leg. *Cranial cavity.*—The bone and dura mater presented nothing unusual. There was a little injection of the pia mater, and some slight effusion beneath the arachnoid membrane, which at the base of the brain became sanguinolent. The right ventricle was distended by a large clot of blood, of the size of a turkey's egg, and of a solid consistence. The adjacent cerebral substance was softened and disorganised as far as the surface of the convolutions of the middle lobe. The ventricular septum was destroyed. The left ventricle contained two or three spoonfuls of sanguineous serosity. *Thoracic cavity.*—The lungs were extremely congested. The heart flaccid, and enclosing a few coagula of a soft consistence mixed with black blood in its auricles and ventricles. *Abdominal cavity.*—The internal surface of the stomach presented numerous points of arborescent congestion of a bright red, with softening of the mucous membrane, but without ulceration or destruction of its parietes. The uterus was healthy and empty.

From the previous facts, it was concluded—1st. That the cause of death was apoplexy. 2d. That this apoplexy was attributable to the excesses to which she had been addicted. 3d. That the charge of poisoning could only be cleared up by analysis of the contents of the digestive canal. 4. The contusions might have been the result of violence or accident.

CASE VI.—*Wound of the neck—intoxication—cerebral and pulmonary congestion—meningeal hæmorrhage—death.*

— Cholet, a robust man, aged 19, received, in a quarrel, a blow from an iron shovel, and died instantly. The body being taken to the Morgue, was submitted to Dr. Tardieu's examination.

Autopsy—exterior condition.—Marked rigidity; bruise and excoriation on front of left leg. In the mastoid region, and nearly an inch behind the right ear, was a transverse wound, with smooth edges, rather more than an inch in extent, penetrating deeply behind, through the mass of cervical muscles, without entering the skull or vertebral canal, or dividing any important vessel. *Cranial cavity.*—The dura mater was healthy, and adhered firmly to the bone. The surface of the hemispheres at the superior aspect of the brain and cerebellum, was enclosed in a bed of coagulated blood, effused into the cavity of the arachnoid. There were no clots in the cerebral substance, which was firm and consistent. The ventricles, the septum being broken down, enclosed about six ounces of sanguinolent serum, in which floated some black coagula. A very strong smell of spirits was exhaled from the brain and other viscera. *Visceral cavities.*—The heart was large, the left ventricle empty, the right side full of blood. The lungs were congested. The stomach contained nearly a pint of wine.

It was concluded from this examination—1st. That death was caused by apoplectic effusion of blood into the cavity of the arachnoid and the ventricles. 2d. That the state of intoxication powerfully contributed to this apoplexy. 3d. That the wound on the neck, which was both an incised and a contused wound, was not sufficient of itself to have caused death. 4th. That the blow and the fall which ensued on its reception may have had a share in determining the apoplexy, but to what extent cannot be fixed. 5th. The odour of spirits emitted from the body, and the quantity of wine found in the stomach, put beyond doubt the state of intoxication.

CASE VII.—*Non-penetrating wounds by a pointed instrument—intoxication—meningeal hæmorrhage—pulmonary apoplexy—death.*

On January 19th, 1846, the subject of the present observation having one evening been engaged in a quarrel, in which he received from his adversary several wounds by a gimlet, went home to bed, and soon fell into a stertorous sleep, which, however, did not alarm his wife, who regarded it as the usual consequence of his intoxication. He died at half-past seven the following morning without other symptoms.

Autopsy ten hours after death.—Body warm; rigidity commencing. Some excoriations about the face. A little reddish froth at the mouth. On the posterior aspect of the trunk, along the edge of the left scapula, were three small round wounds, their edges inverted, and surrounded by a red areola; there were also two other similar wounds, one near the vertebral column, the other near the border of the left axilla. On the same plane with these wounds, and deep among the muscles, there was considerable infiltration of blood. Neither of the wounds penetrated the cavities. There was no effusion into the sac of the pleura, but ecchymosis was found beneath the serous membrane at points corresponding to the wounds. The surface of the lung was uninjured, but at various points within their substance were numerous extravasations of dark blood, varying in size from that of a large pea to that of a pigeon's egg, producing on their surface black stains, and within pulmonary apoplexy. The heart containing only a small coagulum in the right ventricle. The stomach was empty.

A minute wound by a pointed instrument was found in front of the ear, with ecchymosis extending into the substance of the temporal muscle and deep cellular tissue. The cranial bones were uninjured; no effusion between these and the dura mater. Blood was found effused beneath the arachnoid of the left temporal region of the hemisphere, and a large clot, of the size of a fist, filled the lateral ventricles, while the adjacent cerebral substance was broken down, even as far as the convolutions. The third and fourth ventricles also enclosed coagula.

Conclusions.—1st. The wounds on the body corresponded with the gimlet which was taken from deceased's antagonist. 2nd. These wounds not having reached to or wounded any important organ, were not mortal. 3rd. Apoplexy was the cause of death. 4th. This apoplexy, favoured by his habits of intemperance, was determined by the violent quarrel in which he had been engaged.

Drs. Tardieu and Bayard received directions to take into consideration the depositions in this case, and to express an opinion as to the cause of death, together with the probable consequences of these wounds, supposing they had not been followed by apoplexy.

In order to arrive at a just appreciation of all the elements of the question, Drs. Tardieu and Bayard consider them under the following heads:—*a.* What were the antecedent constitution and habits of the subject? *b.* What was his state at the time of the conflict, and what were its attendant and subsequent circumstances? *c.* What relation did

the autopsy establish between the lesions found and the preceding accidents?

a. The antecedent constitution of the subject had been good, but his habits bad, he having indulged to excess in drinking. When drunk, he always slept as under the influence of cerebral congestion.

b. On the evening of the 19th of January this man, by name Pileux, had been drinking from noon till half-past nine in the evening, with one Dauguenger, by this time he was very drunk. He quarrelled with his companion, and then walked on his way home, but waited for Dauguenger, with whom, a second time, he fell into a dispute and conflict, when the wounds which have been mentioned were received by him. After this he became completely intoxicated, and being taken home, was no sooner laid on his bed than he fell asleep. In a short time he breathed heavily, then snored, then threw his arms about convulsively,—his face became paler and paler, till at half-past seven in the morning he breathed his last.

c. From a consideration of the preceding facts, coupled with the appearances found on examination of the body, it was clear that the wounds received in the conflict could have little or nothing to do with his death. The double apoplexy was alone sufficient to account for death; to these he was predisposed by his intemperate habits; therefore these were conditions belonging to the individual, and totally independent of extraneous circumstances. The exciting causes were to be found in the violent passion of wrath aggravated by the present state of inebriation.

Whence the conclusions that—1. These wounds, but for the concomitant circumstances, would have been healed in fourteen or fifteen days. 2. That the apoplexy was coincident with intoxication, emotion, and wrath. 3. That there existed from previous habits a predisposition to apoplectic disease.

This last example, and the extended discussion to which it gave occasion, sums up the chief features of other analogous cases; it is therefore unnecessary further to multiply instances in order to show that a constant relation exists between the attendant circumstances and the lesions which determine death in these cases.

Wounds or other external injuries may be the result of a struggle or conflict, or of a fall or other accident, and may be supposed to be the cause of death. Judicial investigation is directed to ascertain precisely the relation between the death and the injuries, or the influence these may exert on the fatal termination. The cases which have been related show that these points cannot always be positively determined. For though intoxication be the determining cause of death, yet it is not easy in every case to separate its influence from those of violence, mental emotion, wrath, or low degrees of temperature. In truth, the medico-legal doctrine of these cases must be resolved into the before-cited precept of Fodéré, "that whatever does not belong essentially to a wound, should not be imputed to its author."

A few words may be added on the characters of the fatal lesions produced by intoxication. A slight survey of the preceding observations shows great uniformity in the anatomical appearances. Morgagni* long since pointed out the frequency of extravasations of blood. M. Devergie† has shown the constancy of congestion of the nervous centre of the vessels of the meninges of the brain, and of the pulmonary tissues. Dr. Tardieu accedes to the accuracy of these statements, but considers that a faithful account should go beyond these.

In the preceding reports it has been seen that the cerebral congestion was followed by effusion of blood having this peculiar feature, that it was found in the serous cavity of the arachnoid. This is not to aver that it cannot produce congestion of, or extravasation into, the substance of the brain, but the frequency of meningeal apoplexy under these circumstances is very remarkable.

Lastly, it is of the greatest importance to investigate in these cases the contents of the stomach: it is rarely that wine or spirit is not found therein. The odour of alcohol in the brain and viscera, though sometimes wanting, is often found.

To sum up: When death occurs rapidly in the state of intoxication, pulmonary apoplexy, and meningeal apoplexy, are the lesions most frequently, if not constantly found, so that they are almost characteristic.—*Annales d'Hygiène publique*, Oct. 1848. X

NEW OPERATION FOR THE TREATMENT OF VESICO-VAGINAL FISTULA.

M. Jobert, Surgeon to the Hospital St.-Louis, has introduced an operation for this hitherto intractable accident, and which he designates "Autoplastie par glissement," and by which he has succeeded in effecting many perfect cures. The following parts or stages constitute this new operative proceeding:—

1. The patient is placed on her back, the pelvis approached to the edge of the bed or table, and the thighs flexed as in the operation for lithotomy. The walls of the vagina are to be separated by means of a univalve speculum and curved levers con-

* De Sedibus et Causis Morborum. Book 5, Chaps. 6 and 60.

† Médecine légale, 2d edition, 1840, vol. i. p. 106.

trived for the purpose. The cervix uteri is then to be laid hold of at the point of insertion of the vagina, by a pair of hooked forceps, furnished with a rack at their handles, and being drawn down to the vulvæ, is maintained in that position during the entire operation.

2. A semi-circular incision detaches the insertion of the vagina from the cervix uteri. The two lips of this incision instantly separate, leaving a bleeding surface about one inch in width. The vagina with a gliding movement slides spontaneously forwards, whereby the lips of the vesico-vaginal fistula are approximated, and the loss of substance repaired.

3. The edges of the fistula are then to be paired with a bistoury or scissors. The *mucous membrane* only is to be removed, to the extent of about one centimetre = one-third of an inch. It is important to remove only the mucous membrane, in order that further loss of substance be not incurred; and it is equally important to secure a sufficiently extensive bleeding surface for subsequent union.

4. The cut edges are next to be brought together by interrupted sutures, each at the distance of about one third of an inch, leaving so much of the ligatures as shall facilitate their removal at the proper time.

5. If any gaping of the edges of the fistula should remain, it is also important to remove this by superficial incisions on either side of the fistula.

6. Hæmorrhage is to be restrained by a plug of amadou introduced into the vagina, and which is to be removed in a day or two, perhaps on the following day.

7. An elastic catheter is to be introduced and retained in the bladder. The patient must maintain the recumbent posture, with the legs raised on cushions, until union has taken place.—*Bulletin de Thérapeutique*, Fevrier 1849. χ

CASE OF TRAUMATIC TETANUS TREATED WITH LARGE DOSES OF SULPHATE OF QUININE. BY D. E. BISHOP, M.D., OF ITHACA, N. Y.

HAVING witnessed a case of traumatic tetanus, in company with Drs. Beals and Bulkly, some two years since, and having both before and since then experienced the powerfully *sedative* effects of large doses of quinine (not accompanied with the same amount of prostration as tobacco and medicines of that class), induced me, should an occasion offer, to give it a trial in that disease. I enclose herewith a case which terminated favourably under that treatment, in August 1845, at a small town in Indiana, on the Ohio River, which I take from my note-book at the time.

August 10th, 1845.—Called to see Joseph P., blacksmith, aged 32. July 22d, ran [a] rusty nail into hollow of foot, wounding internal plantar collateral nerve of great toe. Wound progressed very unfavourably. On evening of 10th, found him with symptoms of confirmed tetanus, viz. opisthotonos, paroxysms occurring every three or four minutes, pain agonizing, perspiration very profuse, difficult deglutition, pulse 84, can separate jaw half an inch, respiration hurried. I incised the wound, and applied actual cautery. Ordered—℞ Calomel. Ext. Col. Comp. aa. gr. v.; Ol. Croton. ♏j. Ft. Pil. ij. st. sumend. ℞ Sulph. Quin. gr. xv.; Sulph. Morph. ⅝ gr.; Syr. simp. q. s. To be taken some two hours after the pills. To rub the following liniment along whole length of spine: Sulph. Acid. 1 oz.; Ol. Oliv. 2 oz. Morning.—Evacuations had been copious, secretions very much depraved, quinine and morphine had the effect of lengthening the interval between the spasms in the course of a few hours to five minutes, pulse seventy-five, pain much diminished, distress at pit of stomach quite severe, which might have been aggravated by quinine, as is sometimes the case. Has some desire for food,—to take strong beef tea with brandy during the day. Without going further into details, these medicines had a decided effect upon the disease from the beginning. The same treatment was continued for five days, with occasional variation as it regards time and dose as circumstances seemed to require; kept up irritation to spine. Sixth day.—Owing to a suspension of the quin. and morph. for ten hours, all the symptoms increased rapidly; they were again given in as large doses as at first, with the same happy effect; the wound healed kindly and rapidly, and the eleventh day from the time I first saw him he was very much better in every respect, jaws opened all the way, countenance bright and cheerful, pulse natural, not more than four spasms during twenty-four hours, and those very slight. Continued quinine and morphine, 4 gr. and ¼ gr. every six hours: used liniment freely, cathartic occasionally, porter, port wine, beef tea, and arrow root. Twentieth day.—Is quite well, except very much debilitated; has continued well without return of spasms.

The only peculiarity in the treatment of the case is the use of quinine as a sedative, and the irritation of the spine, which seems desirable in any affection of the nerves of motion.—*New York Journal of Medicine.*

LIGATURE OF THE INTERNAL ILIAC ARTERY FOR A TRAUMATIC ANEURISM OF THE GLUTEAL. BY DR. H. J. BIGELOW.

A MIDDLE-AGED Irish woman was stabbed in the right buttock by her husband on the evening of the 4th of July last. By the

evidence of the physician who was called, a very large quantity of blood was lost. But the bleeding ceased under compression, and the woman was enabled to resume her usual occupations. Three or four weeks subsequently, there appeared a numbness and weakness of the extremity of the wounded side, and soon after a small tumor was observed in the situation of the cicatrix of the wound. On her entrance into the hospital in September, there was a tumor over the upper part of the ischiatic notch, about the size of a lady's apple, with an unequivocal though not strong pulsation, and a very marked souffle. The tumor extended into the pelvis, and could be felt both per vaginam and per rectum. No doubt could be entertained of the character of the tumor. Taking into view the fact that the wound of the artery must necessarily have been directly at the ischiatic notch, rendering the possibility of discerning it there a matter of great doubt, it was decided to tie the internal iliac. During her residence at the hospital and previous to the operation, the numbness of the right lower extremity increased, and several large bullæ, like those of pemphigus, appeared on the same limb. The operation was performed September 30th. The incision was made above, and parallel to, Poupart's ligature; the peritoneum raised from the iliac fossa, and the artery readily attained. After the application of the ligature the aneurismal symptoms ceased. The patient continued comfortable for two days, when symptoms of peritoneal inflammation commenced, and she died the eighth day after the operation. At the autopsy, a considerable quantity of lymph was found in the peritoneal cavity, but adhesion had taken place in the course of the wound. The right os innominatum, which was exhibited with the parts attached, showed:—1st. The ligature around the internal iliac artery, just above its division, and a satisfactory clot formed between this spot and the division of the common iliac. 2d. The wound of the gluteal artery immediately at its emergence from the notch, and the aneurism composed of two portions, one about the size of a pigeon's egg, formed in the cellular tissue, and the other in the substance of the pyriformis muscle, which latter was the portion felt during life on the inside of the pelvis. In both, the blood was firmly coagulated. The sciatic nerve was compressed and flattened on the spine of the ischium.—*American Journ. Med. Sciences.*

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Aug. 18.

Births.	Deaths.	*Av. of 5 Sum.*
Males.... 676	Males.... 1116	Males.... 513
Females.. 658	Females.. 1114	Females.. 495
1334	2230	1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	2230	1008
Specified Causes	2227	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	1593	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	40	36
3. Brain, Spinal Marrow, Nerves, and Senses	115	115
4. Heart and Bloodvessels	35	38
5. Lungs and organs of Respiration	83	81
6. Stomach, Liver, &c.	54	68
7. Diseases of the Kidneys, &c.	12	8
8. Childbirth, Diseases of Uterus, &c.	6	11
9. Rheumatism, Diseases of Bones, Joints, &c.	6	6
10. Skin	1	1
11. Old Age	45	32
12. Sudden Deaths	7	8
13. Violence, Privation, Cold, &c.	22	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	1	Convulsions	40
Measles	23	Bronchitis	34
Scarlatina	27	Pneumonia	37
Hooping-cough	34	Phthisis	83
Diarrhœa	188	Lungs	5
Cholera	1230	Teething	11
Typhus	46	Stomach	6
Dropsy	19	Liver	8
Hydrocephalus	37		
Apoplexy	14	Childbirth	6
Paralysis	28	Uterus	0

Remarks.—The total number of deaths was 1222 *above* the weekly summer average, the largest amount of mortality which we have had to record for a very considerable period. It is remarkable that this great surplus is within *eight* equivalent to the deaths from malignant cholera only! The week is also singular in the fact that there was only *one* recorded death from small-pox. See remarks at page 322.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·67
,, ,, ,, Thermometer[a] ..... 60·3
Self-registering do.[b] .... Max. 87° Min. 34·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·19—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1.°3 *below* the mean temperature of the month of August (61.°6).

NOTICES TO CORRESPONDENTS.

The Blue line on the Gums as diagnostic of lead-poisoning.—A correspondent, on whose opinion we place great reliance, informs us that the credit of having first pointed out this symptom of lead-poisoning, is due to M. Tanquerel des Planches, and not to the late Dr. Burton, as stated in our last number.

The length of the report of the Trial of Wood has rendered it necessary to postpone it until next week.

The correspondence of the Poor-Law Convention with the Medical Corporations will appear in the following number.

Mr. Smith's Practical Observations on Insanity will be inserted with as little delay as possible, and a proof sent.

The notes of Assistant-Surgeon Moore, of the Gwalior Contingent, on the use of Tartar Emetic in Intermittent Fevers, have safely reached us. They shall have early insertion. —The note will be sent as addressed.

Corrigenda.—In the last No., p. 289, col. 2, 7th line from foot, for "eutosphœnoideum," read "entosphœnoideum";—and at p 290, col. 1, line 9 from top, for "fascial," rean "facial."

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXIII.

TUMORS.

Definition of the term—classification of tumors.

TUMORS OF THE CUTICLE—*Warts and corns—sun-wart, cause, treatment, similarity to chimney-sweepers' cancer.*

ENCYSTED TUMORS—*their origin—varieties of—mode of removing, by injection, by extirpation—cases.*

TUMORS OF THE CELLULAR MEMBRANE—*Steatomata—their structure — extirpation of—diagnosis sometimes difficult—cases — treatment — complication with malignant disease—cases.*

MUSCULAR TUMORS—*existence doubtful—diseases of muscular system generally the effect of contamination from other structures—case.*

By the term tumor is meant any unnatural growth constituting a swelling, and therefore it may be applied to the effusion of lymph, the formation of matter, or to an unsymetrical enlargement of any part of the body, whatever the cause may be. Surgeons, however, have attempted to render the term more definite, and have defined a tumor as a circumscribed swelling produced by disease, and differing in nature and consistence from the structures whence it arises. But this definition will only apply to certain classes of tumors, for neither steatomata nor exostoses differ from the tissues in which they take their origin, and constitute merely an hypertrophy of those structures. A tumor may, therefore, be more correctly defined as an unnatural enlargement resulting from a morbid growth not included in the original structure of the body. The causes of such adventitious growths are extremely difficult to discover, and may be either local or constitutional. John Hunter advocated the opinion that blood effused from external injury became coagulated, its serum absorbed, and the remaining fibrin subsequently organized from the extension into it of surrounding vessels. But when we observe how frequently effusions of blood occur without the formation of abnormal growths, such a doctrine appears to be scarcely tenable, particularly as tumors present at their very commencement as much variation from the surrounding natural structures as after they have become extensively developed; and even when traced to the earliest period of their growth they do not present the characters of organized fibrin. It seems that from any cause which induces inflammation in a structure, whether that cause be arising from disease or external injury, such a deviation from the natural nutrition of the part may arise as to induce a morbid growth, which, although it may be similar to the structure from which it emanates, still generally sufficiently differs from it to constitute disease rather than mere hypertrophy; and therefore I consider that tumors should be classified according to the tissues from whence they arise, rather than according to their own physical conditions, as it will always be found that the effused mass constituting the tumor resembles more or less the structures in which it originates, but existing under an altered and abnormal form.

Tumors, after they have acquired a certain size, frequently induce an irritation in the surrounding tissues, which leads to the formation of a kind of cyst or capsule, more or less distinct; and even sometimes within their substance they are subdivided by cysts, the contents of which may differ in consistence and properties according to the nature of the effusions which result from the secretion of their capillaries, although they may be said to attempt the effusion of the constituents of the structures from whence they arise, but are incapable of doing so from some morbid action having been induced in them.

Mr. Abernethy has attempted a classification of tumors according to their internal structure and organization, placing them under the general heads of sarcoma and cancer, dividing the former into adipose, pancreatic, mammary, and tuberculated, and the latter into scirrhus and fungus hæmatodes, or, as he sometimes termed it, medullary sarcoma. It appears to me, however, that it would be more rational to classify tumors according to the structures whence they take their rise; and, indeed, this arrangement has already been adopted by Dr. Warren, of Boston, in his comprehensive work on this subject.

Under this plan of classification I shall naturally begin by treating of the tumors of the cuticle. With respect to the growth of common epidermoid warts, and the formation of corns, the skill of the surgeon is rarely called into requisition; the former may, however, be easily removed by excision from their cuticular attachment, or more slowly by being frequently touched with nitric acid or lunar caustic. But there is a species of wart of a much more important character than this, and to which

West Indians seem particularly liable—it is termed sun-wart. In its first appearance it constitutes merely a trifling warty excrescence; if this be forcibly removed, a slight abrasion of the skin is left, from whence a secretion exudes which has a great tendency to harden or form an eschar. If this be again removed the sore becomes still larger, nature is interrupted in her process of cure, and an ulcer is established; while, on the contrary, if the scab be allowed to remain, it defends the cutis from the influence of external agents, and if at the same time alterative remedies be administered to improve the constitution of the patient, the wound cicatrizes, and the disease is consequently removed; but, if the outer crust be removed before the cicatrization is complete, the ulcer soon assumes a phagedenic character, and rapidly increases. At this period of the disease, chloride of zinc should be applied, and a small quantity of charpie placed over the ulcer: this soon forms a hard crust, which should be kept on the surface until it spontaneously falls off, when the wound beneath will be found healed. A good preparation for producing similar curative effects is a mixture of lime and potassa fusa, made into a paste with alcohol. This is to be spread on a piece of lint, and laid over the sore; the whole may then be covered with the preparation termed collodion, and left until it spontaneously falls off.

As I have already remarked, when speaking of chimney-sweepers' cancer, this disease is very similar to it, and its virulence seems to depend upon the frequent irritation arising from the removal of the scab, just as in chimney-sweepers' cancer the sore is continually irritated by the presence of the soot. Sometimes, however, in strumous diatheses, or in persons who have been many years exposed to a tropical climate, the functions of the skin have become so much impaired that it is incapable of putting on a healthy action, and the ulceration sometimes continues until a large portion of the face is eaten away. At the same time I do not believe that this is to be classed with malignant diseases, as it is not liable to be propagated to distant parts by means of the lymphatics, but appears always to remain as a local affection only.

These diseases are the result of an altered condition of the true skin; for as the epidermis is merely a secretion from the skin, it cannot in itself endanger an abnormal condition.

Encysted tumors.—Sebaceous follicles constitute a considerable proportion of the structure of the cutis, their function being to secrete a fluid for the lubrication of the surface of the skin: they may be considered, in fact, as the most simple kind of gland, and are composed of a small sac projecting internally into the cellular tissue, and deriving its blood-vessels from the capillaries of that structure. If from any cause the orifice of the follicle becomes closed, a retention of its secretion must necessarily follow, and this exciting a morbid action, alters the character of the secretion, and is converted into an encysted tumor. These tumors sometimes increase to a considerable size, but more frequently remain about the size of a pea, not appearing to possess any tendency to enlargement, unless subjected to irritation, when they often begin rapidly to increase, and require to be removed by operation. The formation of an encysted tumor may proceed not only from the accidental closing up of the excretory orifice of a follicle, but also in consequence of inflammatory action which may induce a change in the character of the secretion, thickening it, and rendering it incapable of flowing from the follicle in the normal manner. Acne punctata may be considered as the simplest form of follicular encysted tumor.

In many persons there appears to be a peculiar tendency to the formation of encysted tumors, especially in the scalp. I have removed as many as seventeen from the head of one gentleman, and in another instance I removed seven from an individual, still leaving five others which did not offer any inconvenience at the time, and which I therefore thought it better not to interfere with. The best mode of removing them is by making an incision through the skin, avoiding, if possible, the opening of the sac, which, with its contents, should be detached from the skin by a probe, and by slight pressure at the sides of the tumor it usually turns out readily. If the sac should have become adherent from continued pressure, it may require to be dissected from its attachments by the scalpel. If after its removal the sac be opened for the evacuation of its contents, it will generally be found to contain atheromatous matter; and should the tumor have been subjected to considerable pressure, and inflammation have supervened, the contents will sometimes be found tinged with blood. It sometimes occurs that the sac, from the accumulation of its contents, ulcerates, the secretion becomes hardened by the exposure to the atmosphere, and continuing to grow, becomes converted into a substance having very much the appearance and character of horn. A curious specimen of this kind of tumor may be seen in the museum of St. Thomas's Hospital: it was removed by Dr. Roots, of Kingston, and was presented by him to Sir Astley Cooper. Upon examination of this substance under the microscope, it will, however, be found not identical with horn. Earthy matter and hair have been found

within these cysts. It can, I think, scarcely be a matter of surprise that hair should be found in these cysts, from their close proximity to the hair bulbs, whence they are likely to receive blood-vessels fitted to furnish the constituents necessary to the formation of hair. Some surgeons have recommended that the cyst should be punctured, and its contents squeezed out; others that a free opening should be made into them, their contents being turned out, and the sac filled with lint; but, as this treatment sometimes leads to a morbid fungus-like growth from the surface of the cyst, extirpation is generally to be preferred. In one case, however, I have succeeded in completely destroying a cyst of this kind by the injection of a saturated solution of alum. A lady in Norfolk Street, Park Lane, sent for me in consequence of suffering from an inflamed encysted tumor on the forehead, which had been severely inflamed from being injured in combing the hair. I ordered at first a cold white-wash poultice to subdue the inflammation: the skin ulcerated, and a partial discharge of the contents of the tumor resulted. I wished to extirpate the cyst, but she would not submit to the operation, and I therefore determined upon injecting it with a solution of alum. In four or five days the cyst had become detached from its cellular connections, and was readily removed by a pair of forceps, I suppose that the alum coagulated the blood in its nutrient vessels, and had thus destroyed its vitality.

I should not generally recommend this treatment in preference to extirpation, but in cases where the patient is determinedly opposed to the operation I think it may be adopted with advantage. I have removed pendulous tumors from the skin containing the same kind of atheromatous matter as is found in the deep-seated cyst, and believe that the tumor in that case results from the prolongation of the cyst externally. I am induced to believe this from the following case:—On removing one of these pendulous tumors from the thigh of a gentleman, and having cut through the neck of a tumor, a considerable quantity of atheromatous matter exuded from the centre of the wound, showing that a portion of the sac was still deeply-seated in the cellular tissue. The partial excision was, however, sufficient, as ten years have now elapsed, and there has been no return of the tumor.

Simple as these operations are, there is one point of great importance—this is, the subsequent liability to erysipelas, especially when the tumor is seated in the scalp, probably in consequence of the freedom of the motion in this part from the action of the occipito-frontalis muscle, and therefore every means should be employed to prepare the patient before the tumor is removed, and after its removal bandages should be applied to prevent the motions of the muscle. A few days ago I removed an encysted tumor from the head of a gentleman, and applied colodion (solution of gun cotton in chloroform, as a dressing): this formed so complete a covering, and on drying contracted so much, that the wound perfectly united by adhesion in four days. The hardness of the covering provided by this substance affords one great advantage, as it maintains that condition of fixedness so conducive to the prevention of erysipelas, as well as to the healing of the wound.

I believe that encysted tumors sometimes degenerate into a malignant disease. In 1838, Mr. Stedman, of Guilford, brought me a patient, who, about two months before, discovered a small tumor in the right lumbar region: upon pressure a small quantity of atheromatous matter exuded; it soon scabbed over, and in about two months unhealthy granulations sprouted out, supported by a thin stalk; these exuberant granulations soon acquired the size of half a crown. At this time Sir Benjamin Brodie saw the patient, and applied potassa fusa: this, however, only partially destroyed the growth. In a month after, the patient again came to London, and Sir Benjamin Brodie being out of town, I was consulted. I recommended the immediate extirpation of the disease: the patient would not consent to this, and placed himself under the care of Dr. Chambers and Mr. John Scott. In January of the same year he died, the disease having proved to be fungoid: the immediate cause of his death was, however, hæmatemesis.

Mr. Scarr, of Bishop's Stortford, brought me, some time since, a young gentleman, 23 years of age, who was the subject of a tumor, about the size of a walnut, upon the back of the hand. It had been punctured in two or three places, and from the openings (which had never healed) fungoid granulations sprung: in this state I first saw it, the skin was quite flexible and easily raised from the subcutaneous tissues, proving the non-extension of the tumor into the cellular membrane. I had some fear from its appearance that the disease was malignant, and recommended its immediate extirpation: this was performed with considerable difficulty, in consequence of the looseness of its texture. Nitric acid was applied to the wound after the disease was extirpated, and it did not return. I mention this case at the present time as it seemed to implicate the skin only.

Tumors in the cellular membrane.—Steatomata or fatty tumors are the most frequent morbid growths that occur in this tissue, and which sometimes acquire so large a size, as to lead to the necessity for their extirpation. Some persons seem particularly prone to the forma-

tion of these tumors: this would lead to the belief that they depend upon some constitutional tendency rather than upon any accidental local cause, as I have never been able to trace the formation of a steatoma to external injury. The formation of fat, moreover, always seems to arise from a kind of degeneration of tissue, and on that account must be regarded as depending as much upon an altered condition of the constitution as upon mere local action. These adipose tumors are very slow in their growth, causing little or no pain, even when they have acquired a very considerable size. Their physical condition is recognizable by their doughy feel, lobulated form, great mobility, close proximity to the skin, and from the skin itself retaining its normal appearance. If the tumor be pressed so as to tighten the skin, its lobulated form becomes quite distinct, and the freedom from pain during this manipulation constitutes a further diagnostic mark. In some patients several of these fatty tumors are found existing in different parts of the body at the same time; and I had lately a female patient in the hospital who had eight, three of which weighed at least three pounds each: one of them I removed from the upper arm in consequence of the inconvenience it caused her.

Steatomata consist of masses of fat enclosed in adipose membrane, and generally when they acquire any size they produce a thickening of the surrounding cellular tissue, which forms a cyst of greater or less density around the whole swelling; the lobulated form probably results from the distension of the cells of the adipose membrane, which are sometimes so distinctly separated as to give to the tumor when removed somewhat the appearance of a bunch of grapes. If the fat be soft in consistence, it is more diffused, and its lobulated appearance much less distinct; and I have met with steatomata, the contents of which were so soft as to give almost the sensation of fluctuation, and are liable to be mistaken for abscess. When the fat is deposited immediately beneath the skin and subjected to much pressure, the lobes are much smaller, and even sometimes granular, and the cysts proportionally thicker and stronger: such steatomata are more firmly fixed, and consequently removed with more difficulty when their extirpation is had recourse to. Sometimes steatomata assume a pendulous form, adhering by a narrow neck as if a few of the adipose cells only were subject to the abnormal growth of fat, the tumor extending itself outwards, as if the enclosing cyst were capable of generating fat in the direction of its length rather than its breadth, forming a long pendulous tumor with a narrow neck. In removing these tumors care must be taken not only to take away the external swelling, but also to extract the quantity of fat situated subcutaneously. It is not unfrequent in these cases to find rather a large branch of an artery running through the neck of the tumor into the cyst, by which the fat, in fact, becomes generated beyond the normal influence of the capillaries of the original adipose membrane. In the removal of steatomata of this form, more than usual hæmorrhage may therefore be expected from the manner in which the cyst is nourished.

In the operation for the extirpation of steatomata a free incision should be made through the skin to expose the outer capsule of the tumor: this capsule is next to be cut through, when generally the mass of fat may be turned out of its cyst as readily as a kidney may be drawn from its capsule. It rarely happens that any difficulty occurs in checking the bleeding, but the wound should never be dressed until the hæmorrhage has perfectly ceased: or the cavity becomes filled with blood, and the union of the wound by adhesion will certainly be prevented. When dressed, the edges of the wound should be closely adapted and retained in their position by one or two sutures: a compress of lint should then be laid on the cavity, and slight pressure maintained by bandages. It is not always, as I have already mentioned, that these tumors are so readily extirpated, for if by exposure to pressure or external violence they have been subjected to inflammation, they may adhere so firmly to their capsule as to require the dissection of the latter from the surrounding cellular connections: in this case the period required in the operation must be much protracted. I have never known the disease return after its extirpation, nor have I ever witnessed what is described by some surgeons—viz. that the stimulus of the operation leads to the formation of these tumors in other parts of the body, even where there had been no previous apparent tendency to their formation. Indeed, I do not know of any surgical operation which promises a more favourable result, and have never known any untoward symptom occur excepting when the size of the tumor renders so large an incision necessary that a comparative degrec of constitutional irritation must naturally result. Erysipelas, however, sometimes supervenes, even in the minor operations.

Steatomata from their position may sometimes be mistaken for tumors of a totally different character and class. The following case affords an example of this:—

John Baldwin, aged 24, was admitted May 25, 1841, for a large tumor in the gluteal region. He stated that about 9 or 10 years before he first discovered the existence of the swelling, which had even then acquired a considerable size; it gave him no pain, but increased so rapidly, that he consulted Dr. Lubbock, of Norwich. On examining the

swelling, I observed an elliptical cicatrix which the patient explained to me had been made by Dr. Lubbock in an attempt to remove the tumor, but which he had abandoned from the fear that it communicated with the interior of the abdomen. After strict examination I determined upon its removal, and I consequently extirpated it on the 28th July. The operation was performed in the following manner:—The patient was placed in the prone position, and an incision three inches long made over the tumor. The several layers covering the swelling which lay beneath the gluteal muscles were successively divided, and the steatomatous nature of the swelling became at once apparent. It penetrated into the great sciatic notch, and had a firm attachment to the sacro-sciatic ligaments and pelvic fascia, its connection with the latter accounting for its motion in coughing, which had probably led Dr. Lubbock to form a wrong diagnosis. The tumor weighed upwards of 4 lbs. and was entirely composed of fat of different degrees of consistency, according to the pressure to which its different parts had been subjected. The patient perfectly recovered.

The following is a case in which a steatomatous tumor was complicated with malignant disease:—Elizabeth Gore, æt. 41, a married woman of unhealthy aspect, was admitted into Guy's on the 26th October, 1847, with a tumor situated above the left mamma, occupying the space between it, the axilla and the clavicle. Shortly after the birth of her last child she first discovered the tumor; it caused her at the time but little pain: she had been ordered, however, to apply leeches, and a liniment had also been prescribed. Upon her admission into the hospital the tumor extended from the sterno-clavicular articulation along the whole length of the clavicle, encroaching upon that bone, having apparently a firm attachment to it, and also extending somewhat into the axilla. The feel of the tumor was lobular, especially at its lower part, and all the physical signs indicated that it was a steatoma. Upon abducting the arm the tumor was subjected to great compression from the tension of the pectoral muscle under which it was placed: the action of this muscle also created considerable pain, of a darting character: no fluctuation could be detected, nor had the patient suffered from rigor.

The woman was labouring under a troublesome cough, and therefore the extirpation of the tumor was delayed until the 25th of November, on which day the operation was performed. The patient was placed on the table in the recumbent posture, her head and shoulders being somewhat raised, and the affected arm held away from the side: an incision, about five inches in length, was made through the skin over the swelling, in the direction of its long axis, and in the course of the fibres of the pectoralis major muscle; the arm was then brought to the side, the sternal was then separated from the clavicular portion of the pectoralis, and the tumor exposed: I next introduced my fingers to detach it from its connections, which were extremely firm, especially to the costo-clavicular ligament, and from this, indeed, I was obliged to dissect it: the operation lasted a quarter of an hour; the patient bore it extremely well: a large sponge was placed in the wound, and she was put to bed; about two hours after the operation the edges of the wound were brought together, and retained by soap plaister. Considerable irritative fever followed, the wound put on a sloughing appearance, typhoid symptoms supervened, and after eight days of suffering the patient died. Upon examination of the tumor, which weighed upwards of a pound, it was found to be composed in part of lobes of fat intermixed with sero-cysts, some of which contained sanious fluid, and others medullary sarcomatous matter, presenting all the appearance of malignant disease. On a post-mortem examination of the body twenty-four hours after death, the wound and the whole region of the axillary presented an extensive sloughing surface; the left axillary vein was filled with a solid coagulum; the lungs were watery, turgid, and easily lacerable—fleshy spots, not quite devoid of air, were seen in them, of a slight dull red colour, and having rather a malignant appearance; the fallopian tubes were free, but dark coloured; the ovaria pale and rugous; the uterus of moderate size, and firm, but the os and cervix felt harder than natural, and one part of the neck was so hard as to feel quite like scirrhus.

These two cases are, I think, sufficient to illustrate the difficulties that may arise in cases of steatomata: the first from its position and physical conditions, the second from its complication with a malignant diathesis; and they show the necessity for the most careful investigation before forming either your diagnosis or prognosis.

Although I have described encysted tumors as most frequently commencing from obstruction of the follicular ducts of the skin, they sometimes arise from the subcutaneous cellular membrane, that tissue becoming converted into a cyst, in consequence of effusion of some adventitious matter into its structure: for instance, I have on two or three occasions seen large cysts form in the neck containing a fluid much resembling serum, and which disease I have termed hydrocele of the neck: two such cases I have cured by the introduction of setons. I have published the cases in Guy's Hospital Reports. Strumous and malignant disease of the absorbent glands may also be consi-

dered as tumors of the cellular membrane, and the extirpation of these frequently becomes necessary. The following case affords a strong example of the contamination that may extend from one part to another through the medium of the absorbents, which are so intimately connected with the subcutaneous cellular tissue.

Cornelius Sullivan, a middle-aged man, was admitted into Guy's Hospital with malignant tumor in the left groin: some years before he had met with a severe accident to his left foot; this was shortly after followed by a swelling in the groin, unattended, however, by pain until about two years before his admission into the hospital, when the pain became at times considerable. The tumor was irregular, bulging, firm and elastic to the touch; the skin smooth and slightly discoloured; two large arteries could be felt pulsating on the inner side. The tumor was twenty-one inches in circumference; it was pendulous, and pain was felt only at its upper part, where it was also tender on pressure. Six days after his admission into the hospital I removed the tumor: the patient was placed upon the table, and I commenced by making an incision on the outer side of the tumor, beginning at the upper part, and extending it round to the opposite point beneath the swelling. Although the incision was only superficial, three arteries bled freely, but the hæmorrhage was stopped by pressure on the mouths of the divided vessels, and on the femoral artery where it passes over the pubes; a second incision was now made on the opposite side to the first, and in about five minutes the tumor was removed: considerable bleeding followed each stroke of the knife; it was, however, arrested as much as possible by the assistants making pressure with their fingers, and immediately after the removal of the tumor eight vessels were secured, and the edges of the wound brought together by sutures and strips of adhesive plaister; a compress and roller were also applied round the thigh to keep them in a state of adduction. The morbid mass presented a medullary appearance, and weighed, after removal, between six and seven pounds.

The day after the operation the patient complained of uneasiness in the wound, and of considerable pain in the left side of the abdomen, which was increased by pressure; on the next day the pain had increased, and there was also tendency to vomit: a portion of the dressing was removed. On the 6th of March the remainder of the dressing was taken off, the wound looked quite healthy, and his health had improved. On the 1st of April the wound was quite cicatrized, except at one point, where the only remaining ligature came out; his general health much better: he soon after left the hospital quite well, and I have never since heard that the disease has reappeared; but as the tumor presented all the appearances of a malignant disease, I should be inclined to expect its liability to return either in the hypogastric or lumbar glands.

In July, 1836, I admitted a woman, æt. 58, who had never had a child, and who was the subject of a tumor in the upper part of the left thigh, which she had first observed three years ago. In appearance the tumor was about the size of a goose's egg, somewhat lobulated, varying in hardness in different parts of its surface, but in no part fluctuating. In describing her case she brought to my recollection that I had, ten years previously, removed a small tumor from the inner side of the left knee, which I remember Sir Astley Cooper had agreed with me in considering of a malignant character. About a fortnight after her admission I removed the tumor in the thigh, and found it very difficult to extirpate, in consequence of its firm attachment to the femoral sheath, which was implicated in the disease. The attachment of the tumor to the sheath of the artery being peduncular, I cut through it, and removed the tumor and applied a ligature to the remaining portion of the attachment, and left it to slough off. Three vessels which had bled freely, owing to their being cut so closely to the femoral artery, required ligature during the operation, and the wound was then dressed. On the fourth day there was considerable secondary hæmorrhage, which appeared to arise from the portion of the tumor which had been left adherent to the sheath; the bleeding was, however, restrained by pressure: the wound then put on a sloughing action, and about ten days after the operation she died of typhoid symptoms. The point of peculiar interest in this case was the length of time that had elapsed between the removal of the first tumor and the appearance of the second in the groin. The second tumor bore all the characters of scirrhus, some parts being softer than others, from the commencement of the ulcerative process. No part of the removed mass appeared to be composed of glandular structure, but seemed to be a deposit in the cellular membrane and fibrous tissue of the femoral sheath. I could without any difficulty multiply the instances of malignant tumors occuring in the cellular membrane, both as a primary and secondary disease, but the two cases quoted seem to me to be sufficient to illustrate the fact of the capillaries of the cellular membrane being capable of depositing the constituents of these abnormal growths under peculiar diatheses.

Tumors in the muscular system are of very rare occurrence, and indeed the muscular system seems particularly free from disease of any kind, for even the abnormal

contractions of cramp or tetanus, and the involuntary motion of the muscles in chorea, must rather be considered as the result of disease of the spinal nerves than of the muscular system itself. It is true that malignant disease, whether it commences in bone, periosteum, or cellular membrane, may secondarily affect the muscular system, but primary malignant affection of this tissue I have never seen. The only abnormal growth I have witnessed in the muscles is one of a fatty character, and which, as it is invariably indicative of constitutional deterioration, requires rather medicinal than surgical treatment, and it has never fallen to my lot to remove any morbid growth from a muscle; my surgery not having extended further than the division of muscular tendon for the relief of some permanent contraction of a joint. Muscles, however, when lacerated transversely, reunite by a structure very dissimilar to the muscular tissue itself, and the medium of union never possesses contractile power, although in time it acquires a degree of firmness, from tension, so that it loses the physical property of elasticity, and then no longer interferes materially with the natural functions of the divided muscle. This new structure often assumes externally the appearance of a tumor, and indeed, under certain actions of the affected muscle, becomes so prominent as to excite alarm in the mind of the patient, and often to deceive even experienced surgeons as to its true nature. I remember a case of this kind in which an eminent surgeon cut down upon the rectus muscle to remove one of these abnormal growths, having from its physical conditions some suspicion of its malignancy; but when the part was exposed, by cutting through the fascia lata, the swelling could no longer be observed, but a species of tendinous matter was seen transversely intersecting the muscles, but which seemed entirely to have lost its prominent condition, probably from the tension of the surrounding parts being removed; and although nothing was extirpated, the abnormal projection never returned after this operation.

The muscular melanotic tumors, fungoid and encysted swellings in the system, or at least those so designated by some authors, I believe myself invariably have their origin in the surrounding cellular membrane, although they may ultimately extend to the sarcolemma, with which, indeed, the muscle may soon become involved in the disease. I think I have seen, after an extensive deep-seated effusion of blood, a permanent solid tumor result, as if the bleeding had taken place within the sheath of a muscle, and had then become organised; but as I never had an opportunity of examining the structure of such a swelling, I cannot speak positively as to whether the fibrin of the extravasated blood has become organised, or merely remained as a coagulum. I have sometimes seen, in the extirpation of scirrhous and fungoid mammæ, malignant deposits so intimately connected with the pectoral muscle as to render it extremely difficult to decide whether it were propagation of disease in the muscle itself, or in the absorbent and venous system of that muscle: I am disposed rather to consider it in the latter light, as I have always found some enlargement of a gland of the axillary concomitant with that condition; and certainly, in practice, the adhesion of the scirrhous tumor to the muscle always constitutes an unfavourable prognostic indication.

I have omitted at the present time the description of many different kinds of tumors, but I have already treated of some of them when speaking of the diseases of the bones, bloodvessels, or other tissues; and of the others when upon the subject of regional surgery in relation to the particular locality in which they occur.

Original Communications.

ON SOME OF THE MORE PRACTICAL POINTS CONNECTED WITH THE TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
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[Continued from p. 238.]

On the Causes and Treatment of Club-foot.

The inquiry into the causes producing the different kinds of club-foot is surrounded with many difficulties, from the fact of the nervous system being, to a large extent, implicated; a subject on which we possess but little *certain* knowledge, at any rate not sufficient to explain the remote causes of the various conditions the muscles are found to be in, in the deformities now under consideration. For it is not sufficient to say that a muscle is contracted, and that its contraction is the cause of the foot being turned in one direction or another: we cannot say *why* it is contracted, what peculiar

condition of the nerves it is that produces an increased action of one muscle more than another; and in other cases, why the nervous power should altogether cease, and leave one set of muscles, and sometimes a single muscle only, in a state of paralysis. Pathology throws little light on these cases so far as tracing their remote origin, yet we are obliged to have recourse to the terms irritation, spasm, and paralysis, to explain the *apparent* origin of many of the deformities met with, and which are so far practically useful, to be available for classification, and for decision as to the mode of treatment to be adopted. All the varieties of club-foot do not depend upon the same causes, nor do they exist under the same circumstances, with regard to the period of their origin; many are congenital, others begin in early childhood principally; while others may begin at any period of life.

I shall adopt the following arrangement in attempting to explain the various causes, though many points will be unsatisfactory, from the difficulty of arriving at facts, which can alone decide them; they must, therefore, for the present remain more or less hypothetical. The two great divisions in the classification are, the *congenital* and the *non-congenital*. The two principal apparent causes in the congenital are—the mechanical, from position and pressure in utero, and the muscular, from increased and undue spasm of the muscles, depending upon cerebral and spinal irritation. In the *non-congenital* the causes may be more numerous—1st. Increased spasm of one set of muscles more than another, without paralysis. 2d. Paralysis of some of the muscles, with simple contraction of the antagonists, without spasm, causing the foot to be distorted, from the want of resistance naturally existing to oppose their action in the healthy condition of the limb. 3d. Paralysis of the whole of the muscles, coming gradually on, so allowing the foot to become deformed at an early stage, the muscles last paralysed keeping the distortion from being remedied, from their diminished length; though no voluntary power exists over them, the tendons may still be in a contracted and rigid condition. In other cases, all the muscles may be paralysed without this contracted condition of some of them. The foot cannot be said to be deformed, but merely hangs mechanically in the position into which its own weight causes it to fall. 4th. Inflammation of the joints, and of the ligaments and tendons around them, may produce an irregular action in the muscles, which may be rendered more likely to displace the joint, owing to relaxation and ulceration of the ligaments from disease. 5th. Injuries of various kinds, either to the bones, as in fractures, or to the ligaments, as in sprains or wounds of the muscles, or other injuries, such as burns, &c. Scrofulous abscesses, destroying the substance of the muscles, and so causing shortening and retraction of the tendon.

Table of the principal causes of club-foot.

Congenital (intra uterine)	Position in utero. Irregular muscular contraction from nervous causes.
Non-congenital	Spasm of one set of muscles without paralysis of the opposite set. Paralysis of one or more muscles without spasm, but merely contraction of the opposite set. Paralysis of the muscles generally of the leg, with or without displacement of the foot. Inflammation of the joint, wounds of the muscles, burns, abscesses, &c.

Of all the congenital deformities, the *talipes varus* is by far the most common, and it affects both feet much more frequently than one only: a point of importance to consider with regard to *position in utero* being a cause of the deformity.

By the position of the child in the mother's womb being a cause of the unnatural shape of the foot or feet, is

meant that pressure either of some part of the child's body or of the sides of the uterus itself tells in a direction against the foot, to mechanically turn it in the position in which it is found when the child is born. Many authors deny the possibility of such pressure being applied "in utero," owing to the presence of the liquor amnii, which is sufficient to prevent the contact of the walls of the uterus with the feet of the child. This objection is only valid at the very early stage of the growth of the fœtus; for I believe in the majority of cases, after the fourth and fifth month, there is never a sufficient quantity of liquor amnii to prevent the uterus coming in contact with some of the parts forming the outline of the child's body. The pressure may then tell upon the foot, either directly or indirectly through the legs; either actively to turn it inwards, or passively by preventing it growing outwards or in the straight position. The important point to decide is, at what age of fœtal life does the varus commence, or does it commence earlier in the embryo; for it is quite certain, if it be found at this early age, when the disproportion between the embryo and the womb is so great, that the intervening liquor amnii must then act as a barrier to all mechanical pressure upon it, and some other cause must be found for the origin of the deformity. Again, if it commence in the embryo, the muscles cannot be the cause of the inversion; for as yet no muscular power can exist, owing to the early stage of development of all parts of the body, as well as the absence of all nervous influence. This question can only be set at rest by being able to decide (so far as the above points are concerned) at what age the deformity does really commence. My own impression is, that the simple cases of varus, as well as some other kinds of club-feet, depend originally upon position in utero; that is to say, that the child is so "packed" that the feet never have an opportunity of turning outwards, but grow in the position in which they were originally placed; for it must be remembered, that, although the general position of the child's body may be the same in all the so-called natural presentations, the hands and feet need not be, and are not always, placed relatively the same with the other parts of the body,—that is to say, one or both feet may be turned more inwards than natural, and be pressed against either the inner surface of the womb or the child's body, for there is always an inclination inwards of the feet while the child is in utero, and it is easy to imagine how this may be increased by a very slight alteration in the situation of the feet, causing them to be in a position that prevents them turning outwards during their growth.

Some advance the opinion that the nervous system is at fault, producing, from some cause, an increased contraction of the set of muscles that turn the foot in the direction in which it is found. There is, however, no proof of this, and reasons may be advanced against it,—one of the strongest of which is, that all the muscles of the affected foot retain their power in a natural degree when the child is born; and, if so, they must have done the same in utero. And why should one set have acted more than another? Did paralysis exist in the class of muscles opposed to the action of those that are contracted, some explanation might then be given of the inversion of the foot; but I believe in congenital varus there is never paralysis, and consequently no predisposition in the limb to favour the action of one set of muscles more than another, but an equal balance exists between the two. It may be said, however, that, although there is no paralysis in these cases of congenital varus, there is certainly more rigidity and contraction of the tendons of those muscles whose action turns the foot inwards—namely, the tendo-achillis and the anterior and posterior tibial. This condition of the muscles is easily explained, by supposing the foot to be originally mechanically turned inwards, and to be kept so while growing "in utero:" during the last three or four months the muscles will naturally become shorter than natural, being formed of a length to accommodate them to the position of the foot, which does not require them to be so long as when the foot is in the straight position. On the other hand, from the same cause, the peronei are longer than natural. This condition of the muscles, to my mind, is quite compatible with the supposition of "position in utero" being the

original cause of the varus, without there being any disordered state of the nervous system to produce irregular contraction of the muscles.

Another reason why the foot is so easily retained in the position of inversion is, that all the ligaments connecting the bones of the tarsus to each other, as well as to the fibula, are much longer than natural on the one side, and have grown so while those on the opposite side are shortened, and of course tending to keep up the deformity. The one set of muscles, under these circumstances, may very easily antagonize the other, without really possessing increased power either from spasm or any other cause; the position and shape of the foot being the circumstances that favour their action, and make them predominate.

My own impression, then, is, that in *congenital cases of varus*, the foot, as well as the muscles that move it, are in a perfectly healthy condition, that the deformity is one of *mal-position* only, and that this is produced by mechanical pressure either of the womb itself directly against the foot, or by the foot being confined in a position that keeps it pressed against the child's body. It becomes then mechanically fixed, and grows like other parts, and accommodates itself to its abnormal situation, the tendency to remain in which, of course remains after the birth of the child, from the altered condition in the muscles with regard to their length, as well as in the ligaments.

I have, in the previous remarks, referred to position in utero as one of the principal, if not sole, causes of the simple congenital varus, whether single or double. The other forms—namely, the talipes valgus and talipes calcaneus—may also be explained in the same manner; for there is the absence of paralysis in the antagonist muscles to those that are shortened, and the feet have the appearance of being moulded to the position in which they are found, though the child still has power to move them: they remain, however, in the deformed position when the child is asleep, and under other circumstances, when the muscles are not acting. These forms of congenital club-feet—namely, the valgus and calcaneus—can many of them be relieved by mechanical treatment only, though the majority are more easily cured by dividing the shortened tendons. I use the term *shortened* instead of *contracted*, in these cases of congenital deformities, wishing to imply that the muscles grow shorter than natural, rather than become contracted after having once been longer.

The bones are not at all altered in shape in congenital club-feet, they are merely displaced to an extent to separate them from one another in some points of their articulation, and to approximate them at others; the situation in which the one and the other is produced is indicated by the convexity and concavity of the foot.

Irregular muscular contraction, as a cause of *congenital* club-foot, I believe seldom exists without there be some organic lesion which can be discovered and traced to either the brain or spinal marrow, which is a rare occurrence. For the fact is, that the majority of the children born with club feet are decidedly healthy, and have no marks of any disease or disordered function of any kind. The children that are sickly when born with these deformities are thin and emaciated generally, there being no reason to suppose that the nervous system is more at fault than any other function; nor so much so as the glandular or digestive, which generally give evidence of disorder by the deficiency in their power, and the consequent slow and feeble development of all parts of the body; but the feet and legs are not more affected than the other extremities. Very often in these thin emaciated children, the deformity itself appears more marked by the mechanical displacement of the bones being greater, which cannot be caused by the muscles; for they are necessarily weaker, and, therefore, cannot exercise so much power over the deformity as in stronger or more healthy children.

I do not, however, mean to deny that there may be some cases in which, from some unexplained cause, the nervous system may be affected even in utero to cause irritation of some of the nerves, either to an extent to produce increased contraction of one set of muscles, or of partial paralysis of the opposite set, by which the balance of power becomes destroyed, and the foot of course turned in the one direction or the other, according to the nature of the affection

and the class of muscles that may be the seat of it. This explanation is so much less satisfactory, and so little borne out by any symptoms tending to support it, than the one I am inclined to think so much more probable —namely, that of position in utero— that this latter, I think, ought to be adopted rather than the former.

The causes of *non-congenital* club-feet are more easily explained, so far as the immediate origin of the deformity is concerned, though the difficulty is perhaps equally as great as in some of the *congenital* cases, to explain the remote and predisposing influence of the nervous system, which, producing spasm or contraction of one set of muscles more than another, or paralysis, causes the foot to be distorted in a direction agreeable to the action of those muscles which retain the greatest power. Take the simplest form of non-congenital club-foot, and at the same time the most common—namely, the *talipes equinus*—it is very easy to account for the immediate cause of the deformity, which is known to be owing to the contraction of the gastrocnemius and solens muscles to an extent sufficient to overcome the action of the antagonist muscles on the anterior part of the foot: the consequence of which is, that the heel is drawn upwards, and the toes are pointed downwards. In the majority of cases there is found to be some paralysis of the antagonist muscles, which in many is complete; so leaving the joint altogether under the control of those muscles which retain their power. They then gradually become shortened, and after a while remain so, owing to the muscular fibre having accommodated itself to its new position, and to the tendon being retracted with it. The obstacle may then be permanent, so far as resisting mechanical means only for the cure. The kind of contraction I have just referred to may exist without any spasm in the muscles, but may be simply owing to the resistance on the opposite side of the joint being removed. Spasm, however, does sometimes exist from some irritation either in the nerves themselves that supply the muscles, or in the spinal marrow and brain: as to the kind of irritation, or the pathological condition of the nervous system, I cannot, from the numerous cases I have myself seen, offer any explanation that is at all satisfactory.

Many cases of paralytic *talipes equinus* (contraction of the gastrocnemius and solens, with paralysis of the anterior tibial and extensor muscles of the toes) commence at the time of dentition. The arm of the same side is often affected with it, implying that the cause, whatever it may be, exists high up in the spinal marrow or in the brain; at other times the foot only is affected: if the arm be as well, the power may return in it, and not in the foot.

In these infantile cases the deformity begins very insidiously, and is very liable to be overlooked until the child begins to try to walk: one leg is then seen to drag after the other, or the inability to put the heel to the ground is observed. If the arm of the same side be affected, it may be noticed without attention being directed to the foot, if the child be not of an age to begin to walk. The foot, however, should always be examined in these cases, when the upper extremity is found to be partially or completely paralysed, for the two affections may often go together; and, as before stated, the arm may get well, and the contraction of the heel still remain.

Dentition is advanced by many as a cause sufficient to excite irritation in the nervous system, to account for the increased spasm of one set of muscles, or of the paralysis of another set. The presence of worms, and disordered digestion, is by others thought sufficient to account for it. In many cases I am convinced there is no proof of either one or the other, the child having cut its teeth regularly, and at the natural time, there being no disorder of the digestion or any other function, but the child apparently being strong and healthy, but still the talipes equinus may exist. At other times it may be traced from the period of some serious illness which may have attacked the child at a later period of life; such as the measles, scarlet fever, &c. The child may be at the age of two, three, or more years. The paralysis and the spasm may then come on suddenly, and may be either partial in one set of muscles, or generally in the extensors of the leg as well as in the muscles of the foot, rendering the case one of a much more serious nature, and more difficult to remedy.

Non-congenital varus is by no means so common as the talipes equinus, and its formation is generally gradual; passing through the various stages of equinus, then equino-varus, and finally the inversion is so much increased that it becomes varus. *Complete non-congenital varus* seldom if ever exists without paralysis of some, if not of all, of the extensors of the toes and flexors of the ankle, including the tibialis anticus in many cases as well. The foot is then given up to the action of the muscles in the back of the leg, and the heel becomes elevated, and the foot turned inwards and backwards, with the toes strongly flexed against the sole of the foot. The bones never become so much compressed and wedged against each other in these *non-congenital* cases, for the muscles, partially paralysed, have not the same power of acting upon them, as well as of not keeping the foot in a position to enable the weight of the body to tell sufficiently upon them to force them in the position in which they are found in the congenital cases. The want of pressure on the foot is also shown by the absence of the firm hard cushion of fat and thickened cuticle in the non-congenital cases, as well as the different shape of the foot; points sufficient at once to indicate the different origin of the two deformities, without inquiring into their history. Though distinct from the congenital varus to an experienced eye, the non-congenital may exist in various degrees of severity, and might be mistaken for the former.

The causes of *non-congenital valgus* are principally of two kinds: the one, increased action of the muscles on the side of the foot towards which it is drawn; the other, the mechanical weight of the body being too much for the arch of the foot to support, either from the ligaments connecting the bones together being too weak, or from their being overstrained by the person carrying heavy weights; the foot then spreads out and becomes flattened. It is very rare to find paralysis of the muscles in *simple valgus*; the set we should expect to find so affected would be those that pass down below the inner ankle, viz. the flexors of the toes and the tibialis posticus; they are, however, often enfeebled, both from the position of the foot throwing them out of the line of their natural action, as well as the opposite set gaining more power, and being brought more into play than their antagonists. In cases of long standing, the tendo-achillis also becomes shortened, causing the heel to be raised, producing the talipes equino valgus. This I believe to be mainly arising from the muscles of the calf having an increased strain upon them, from the altered position of the foot in walking, so causing the muscles to become accommodated to a new position as well as to be increased in power.

The cases of valgus accompanied by paralysis are generally the compound ones with talipes calcaneus, constituting the variety called *calcaneo valgus*. In these, the muscles of the calf, as well as those passing down behind the inner ankle, may be paralysed, and not unfrequently the extensors of the toes also, merely leaving the long and short peronei with the power of keeping the foot everted: this, however, appears more frequently to depend upon a permanent shortened condition of these muscles and tendons, rather than upon any active power they may possess of producing the eversion.

The condition of the foot in calcaneo valgus, when compared with the non-congenital varus, and with the paralytic talipes equinus, affords a very good example, so far as the condition of the nerves supplying the muscles is concerned, of the remark I have previously made—namely, that we know very little if anything of the remote causes of these affections. For take the two cases I have just mentioned: in the one, the muscles on the anterior part of the leg are paralysed—namely, the anterior tibial and the long extensors of the toes, producing abnormal action or contraction of the opposite set—namely, the gastrocnemius and solens, with the posterior tibial, and long flexors of the toes. In the other, *calcaneo valgus*, the paralysis and contraction are reversed by affecting just the opposite set of muscles. I say there is no pathological condition of the nervous system as yet discovered, or at any rate made apparent by any outward set of symptoms, why there should be paralysis of one set of muscles in the one case, and of the opposite set in the other case. We must be content, then, with the immediate and proximate

cause of the deformities, without at present being able to explain the remote.

Inflammatory affections of the joints and muscles, more particularly from rheumatism, may produce a distortion of the foot, either primarily altering the condition of the joint itself, or else (as is most frequently the case) secondarily, through the contraction of the muscles. It is very common to meet with a rigid condition of the tendons, amounting in many cases to permanent contraction, after rheumatism. The joint may have been at first the seat of the inflammation, requiring the foot to be kept in one position, which is generally that of downwards and inwards, which is the easiest, from its requiring no exertion to keep it so, the weight of the foot being sufficient to turn it in this direction. During the whole of the period of the attack, the muscle of the calf, as well as those passing behind the inner ankle, are in a state of contraction, and oppose the slightest attempt to flex the ankle joint, and if they remain for a lengthened time in this position, or are placed in it from repeated attacks of the inflammation, they may become permanently contracted, both from the rigidity of their fibres, as well as from the thickening of the capsule and ligaments around the joint that has taken place, which may be sufficient to mechanically prevent the opposite set of muscles bending the joint, independently of the weakened condition they must be in (as evidenced by their wasting), from the length of time they have been in a state of inaction. When the inflammation has subsided, and the pain has ceased, the patient tries to bear his weight upon the foot in its distorted position, the consequence of which is, that in addition to the causes of the deformity just mentioned, he adds the mechanical weight of his body, which cannot do otherwise than increase it, and if allowed to go on may become so rigid that mechanical means only cannot overcome it.

Abscesses in the substance of the muscle of the calf of the leg, and wounds, or severe burns, may all produce so much inflammation or destruction of the muscular fibre, as to cause a shortening in the muscle itself, and consequent retraction of the tendon, and a distortion of the foot in a corresponding direction. The only sure remedy in these cases is the division of the tendon, and it is quite surprising what a degree of lengthening can be gained in some, by the formation no doubt, of new tendon, for as the muscular fibre would not yield before the division of the tendon, there is no reason to suppose it doing so afterwards.

Injuries directly applied to the joint may produce either mechanical displacement of the foot by fracture of the bones of the leg extending into or near to the ankle, and inflammation may be caused by a severe sprain and bruise. In displacement of the foot after fractures low down in the leg, little can be done after the fracture has united, without it take a direction to cause the heel to be tilted more than naturally upwards. The tendo-achillis may then, from the length of time it has been allowed to be retracted during the treatment, become permanently shortened, and be an obstacle to the motion of the joint, beyond that caused by the fracture: its division may then be required, and increased freedom of the joint thereby gained.

In severe sprains there is more frequently a general rigidity of all the tendons round the joint, and keeping it fixed at a right angle and preventing motion in any direction—a condition of joint that time generally overcomes, though it may be long.

I shall defer the commencement of the treatment of the different forms of club-feet till the next paper.

[To be continued.]

IODINE IN THE TREATMENT OF SNAKE-BITES.

Dr. Whitmire states (*North-Western Med. and Surg. Journ.*, Jan. 1849) that he has used the tincture of iodine in cases of the bites of the rattlesnake, viper, and copper-head, in both man and beast, with the effect of putting an entire stop to the swelling and pain of the bitten part in from twelve to sixteen hours. He paints the bitten part over the whole swelling with three or four coats of the tincture twice daily, and should the swelling extend, which it almost always does after the first application, if made soon after the infliction of the wound, he repeats the application. The third application puts a stop to the extension of the swelling, and three or four more will generally restore the limb to its natural state, except, perhaps, sensibility to the touch, and soreness of the muscles.—*American Journal of the Medical Sciences.*

A SUCCESSFUL

CASE OF OVARIOTOMY,

BY A LARGE ABDOMINAL SECTION.

By John Crouch, Esq. M.R.C.S. M.S.A.
Surgeon to the Bruton Hospital, and formerly House-Surgeon to the Winchester Hospital.

Previous history.—F. W., aged 24, of healthy habits and appearance, resides in an agricultural district of Somersetshire, and has been accustomed to gain her livelihood in the winter as a sempstress, and in the summer by working in the fields.

The catamenia have appeared regularly and sufficiently since her fifteenth year; and she enjoyed good health until 1847, when she first perceived the abdomen to become hard and distended, particularly in the left iliac region, accompanied occasionally by severe dragging pain.

As these symptoms were supposed by her to have been caused by corpulence and a costive habit of body, she consulted no one about them for several months.

In the spring of 1848, she underwent a course of aperient medicine, without any benefit. As her complaint still increased, she consented in the following summer to an examination of the bowels.

The appearance of the abdomen gave rise at first to strong suspicions of pregnancy, and resembled that of a woman about five or six months advanced. But on carefully examining the tumor, which extended from the left iliac region to the right hypochondrium, it was found to be of an irregular shape, more solid at some points than at others; and in the upper part fluctuation was clearly perceptible to the touch. Several of my medical friends agreed with me that it was an encysted ovarian tumor, but recommended the patient to wait as long as possible before paracentesis abdominis should be performed. The uterus was afterwards examined per vaginam, and found to be in a natural and healthy condition.

In May, 1849, at her earnest request, I drew off, with the trocar, seven pints of a coffee-coloured fluid, of a serous character, and highly charged with albumen. The irregularities of the tumor could now be more distinctly perceived; and on the right side of the umbilicus a hard solid substance could be traced, the diameter of which was five or six inches from side to side, and still more than that from above downwards. Of course it was impossible to ascertain the extent of the tumor below, as it would naturally, by its gravity, descend into the cavity of the pelvis. The substance was quite moveable above, except for an inch or two anteriorly, opposite the more dense part. The patient was made to lie on one side, and the tumor being grasped by both hands, and brought forwards from the spine, it was thought to communicate the feeling that it had contracted no adhesions to the viscera posteriorly, and the fingers could be passed almost behind the tumor. It was strongly suspected at the time that some smaller cysts, containing fluid, remained unopened, but fluctuation was very indistinct.

The nature of the disease was then fully explained to the patient, and she was informed that the operation of tapping could only relieve her for a time, but never ultimately cure her, although her life might be prolonged for a few years by having recourse to it.

The "radical cure" by extirpation of the cyst was also described to her, and the danger and extent of the operation fully dwelt upon, when, without hesitation, she not only consented to it, but was always most urgent in requesting that it should be performed with the least possible delay. The cause of this importunity the mother freely acknowledged was, that she had contracted an engagement of marriage, which her condition rendered her unable to fulfil.

On the evening of the 8th of July, preparatory to the operation, she took ten grains of the inspissated ox-gall, which dose was repeated the following morning, and produced two copious and good evacuations. The bladder was also completely emptied before the operation; indeed, she had been unable for some time, from the pressure of the tumor above, to retain the urine longer than an hour except when she was in a recumbent posture.

The uterus was again carefully examined per vaginam while the patient was standing, and pronounced healthy

as far as the os and cervix were concerned. The fundus was found to be unnaturally pressed forwards under the arch of the pubes,—not, it was inferred, from any disease of itself, but from the superincumbent weight of the ovarian tumor.

At one o'clock, on the 9th of July, I proceeded to perform the following operation, kindly and ably assisted by my friends Dr. Surrage of Wincanton, Mr. T. G. Stockwell of Bath, Mr. F. J. Sandford of Bruton, and by my brother Mr. W. R. Crouch. The temperature of the room ranged from 80° to 85°. The chloroform, although prepared, was not administered, as a majority of my medical friends, on the authority of Dr. Clay and others, were decidedly against its use.

Operation. — Having marked out, with a camel-hair brush and iodine paint, five transverse lines across the linea alba for the insertion of sutures, I commenced an incision into the skin and cellular membrane about three inches above the navel, and extended it to the length of nine inches towards the pubes, avoiding the umbilicus by about half an inch. I then opened the peritoneum, midway between the umbilicus and pubes, to the extent of an inch. The character of the tumor being now ascertained, I quickly extended the opening of the peritoneum to the length of the external incision. A large white cyst now partly protruded itself through the opening, evidently the one that had been previously tapped. On making an incision into it, about five pints of the same coffee-coloured fluid as before were let out, and these had collected in as many weeks. Four other separate cysts were then punctured, each containing from half a pint to a pint of fluids of different colours and consistencies. This reduced the tumor to one-third of its original size, and enabled us easily to examine its connexions, and the condition of the surrounding viscera. The only adhesion that existed was between the solid part of the tumor in front and the abdominal parietes, midway between the umbilicus and the right crest of the ilium, to the extent of two square inches. This adhesion was easily divided with a blunt bone-knife. The cavity of the pelvis was completely filled with a great number of small sacs. On raising these, Dr. Surrage pronounced the uterus and right ovary to be in a perfectly healthy condition. The pedicle of the tumor was then easily discovered, and was situated, as predicted, in the left broad ligament of the uterus. Its thickness when pressed together was not greater than a middle-sized finger.

A suture-needle, armed with a double thread of very strong "ligature twine,"* was then made to pierce the centre of the pedicle near its uterine extremity, and, the needle being cut off, two of the four ends were tied very tightly in opposite directions, as in the operation for the cure of a nævus. This was done in two different parts of the pedicle. Four of the eight strings were then cut off, and the other four were placed at the lower end of the external incision.

The tumor was now excised. The tying of the pedicle was the most painful part of the operation, and the only one of which the patient complained.

The external incision was then accurately brought together with five interrupted sutures. To insure this accuracy, the iodine paint lines suggested by Mr. Sandford answered remarkably well. A narrow compress of linen was placed on each side of the wound, and long straps of adhesive plaster were carried from the back and loins of one side, over the incision, to the same part on the other side, from the epigastrium to the pubes. A roller was not applied around the bowels, as it was deemed inconvenient to remove; but a small toilet-tablecloth was carefully pinned in imitation of the "Dublin Obstetric Binder," so as to produce equal pressure on the whole abdominal parietes, and this without any power of slipping. This application, suggested by Mr. T. G. Stockwell, was found very convenient and serviceable, both then and in the after-treatment of the case.

The whole operation occupied twenty-three minutes, and was performed without the loss of an ounce of blood.

The patient was then carefully placed in her bed, complaining of pain in the left side only, opposite the part where the pedicle was tied. Pulse 80; skin warm and moist. A grain of the acetate of morphia was given in the form of pill.

* This twine, although it was only the thirty-second part of an inch in diameter, would support a weight of 36 lbs.

Report of the case three hours after the operation.—The morphia not producing sleep, forty drops of the Tinct. Opii were given two hours after the operation by Mr. Sandford, who kindly remained with the patient till 5 o'clock. Since the operation she has complained of severe pain in the left iliac region, and of an "empty aching" in the stomach and bowels. Has had also a strong desire to pass urine, and begged most earnestly to have something to eat: but this was strictly forbidden. Pulse 115; no hæmorrhage. The rapidity of the pulse was attributed as much to the effect of the opiates as to the shock of the operation.

9 P.M.—Has had an hour's sleep, and is now almost free from pain. The great desire to pass urine has gone off. Pulse 100, soft and compressible; skin moist; tongue clean.—Ordered to be kept perfectly quiet, and to take nothing but a little soaked bread and toast-water. The temperature of the room was reduced to 70°.

July 10th.—Has passed a good night; the pain in the left side has much abated, and recurs only occasionally; urine has been passed without the aid of the catheter. Pulse from 90 to 100, quite soft; skin perspiring; tongue clean. A tube was passed into the rectum to relieve flatulency, with good effect. The abdomen is quite free from distension and pain, and is tender only opposite the seat of the pedicle.

From this period the case may be said to have progressed, under the most simple management, without a single bad symptom. The objects of the treatment were to keep the system in a state of depletion, in order to prevent inflammation,—to trust as much as possible to the restorative efforts of Nature,—and to interfere with medicine only when absolutely required. The excellent rules laid down by Dr. Clay with regard to diet and beverage were strictly adhered to, and a plainly written copy, as follows, put into the hands of the nurse:—

"*Diet and beverage.*—Boiled bread, bread out of toast-water, toast-water, gum-mucilage, thin arrow-root and gruel, for the first *six days;* and up to the *twelfth day* only boiled rice, a little milk with the arrow-root, and a little weak tea to be added."

To a rigid and undeviating attention to these rules I attribute, in a great measure, the entire absence of all inflammatory symptoms.

11th.—Three of the five sutures were taken out of the incision, and all the straps of adhesive plaster were removed except two. The wound, as far as it was uncovered, was united by the "first intention." The bowels were quite flat, and free from tenderness as well as pain. She had slept well the previous night. Urine and flatulency had both passed freely by the natural efforts; no motion. The catamenia had appeared in the night, followed by an almost entire relief as to the tenderness opposite the pedicle. The wound was dressed with straps of adhesive plaster as before. No medicine was ordered.

12th.—Is quite comfortable. Pulse 80; skin and tongue as before.

13th.—The other two sutures were taken out, and the incision was found to be united throughout its whole extent, except where the ligatures of the pedicle passed out. At this point matter has begun to discharge freely. No movement of the bowels.

14th.—Up to this period no medicine of any description has been administered since the day of the operation; and I should have been more anxious about the sluggishness of the bowels if the patient had not been kept so low as to complain heavily of being almost starved. She had taken no food whatever for *twenty-four hours before the operation*, and only two table-spoonfuls of soaked bread the day it was performed; since which time she has never exceeded a teacupful of soaked bread or gruel in the course of twenty-four hours. As the bowels had not acted, a simple gruel injection was this day exhibited.

19th.—Has passed the last four days quite comfortably, although the bowels have not been relieved. Since the last report, has taken three doses of the inspissated ox-gall, each dose containing eight grains, and has had three enemas of gruel, the last having ten grains of ox-gall dissolved in it. About half an hour after the last injection, she passed this morning, without pain or uneasiness, a healthy and copious evacuation. In other respects improving rapidly.

20th.—A motion was this day passed by the natural efforts, and the urine is increased in quantity, and is of a

healthy character. The ligatures of the pedicle being quite firm, were fixed to a small roller of adhesive plaster, and, after gentle traction, were fastened to the skin at a little distance from the opening. The discharge is healthy, and less in quantity.

21st, twelfth day after the operation.—Is much better, and able to sit up in bed. Was allowed an egg for luncheon, and a mutton chop for dinner, which she ate with great relish, having evinced throughout a thorough dislike to slops. So little fever has been produced by the operation, that the patient states she could have relished meat, wine, or malt liquor, at any time since it was performed.

23d.—Much improved; sat up, out of bed, for a quarter of an hour.

26th.—Says she is quite well, and wishes to get up and have on her clothes.

August 11th.—During the last fortnight nothing has occurred to prevent the complete convalescence of the patient. She has partly returned to her usual habits, and is gaining flesh and strength rapidly. Yesterday the catamenia appeared, after the usual interval, the second time since the operation. One of the four ligatures of the pedicle came away on the 18th, a second on the 19th, and the other two on the 33d day after the operation. There is now only a small healthy, freely granulating sore, which promises to heal in a few days. The only medicine taken since the last report has been an occasional dose of the ox-gall.

15th.—The sore is now healed, and her health in every respect, except a little weakness, is quite re-established.

Description of the tumor after its removal.—The weight of the solid part of the cyst was nearly four pounds: its circumference was not less than eighteen inches, and *must* have required an incision of "nine inches" for its easy removal. The fluids measured nine pints, making altogether, fluid and solid, nearly fourteen pounds. The number of separate cysts was not fewer than 200. The larger ones contained a serous fluid, like that obtained at the first tapping; some of the smaller ones were filled with a glairy liquid like white of egg; a third set afforded a thick semi-solid substance resembling dough or pease-pudding. The whole mass of cysts, when emptied of its contents and distended with tow, measured at its largest diameter thirty inches, and at the smaller part nearly two feet. The shape of the cyst is very irregular and difficult to describe without a drawing. At the lower part a number of sacs project, forming the portion which filled the cavity of the pelvis. Two large arteries accompany the enlarged Fallopian tube, and meander through the coats of the cyst.

The measurement of the abdomen prior to the first tapping, and a fortnight after the operation, afforded the following results:—

	Before tapping. Inches.	*After operation.* Inches.
From sternum to pubes	18	11½
Around the body at the navel .	47	26

Some days after the operation, I forwarded specimens of the contents of the cysts to my friend Dr. Hodges, of Bath, who had kindly offered to submit them to analyzation, but they were then so much decomposed as to be unfit for chemical analysis. My own observations only enabled me to ascertain that the application of heat and nitric acid produced a large quantity of albumen, and that litmus and turmeric paper were not affected by being dipped into the fluids.

Remarks.—The relation of this case affords me an opportunity of alluding briefly to the operations that have at different times been proposed for the removal of these troublesome tumors.

The "major operation," which consists of making an incision from sternum to pubes, and removing the cyst *entire*, first practised by Macdowal and Lizars, and introduced successfully into England by Dr. Clay, in 1842, is seldom had recourse to at the present day, and was clearly not required in the above case. For although it was impossible to ascertain before the operation the exact dimensions of the solid part of the cyst, yet I had good reasons for supposing, from actual measurement, that an incision of "nine inches" would allow the passage of the tumor, calculating

that its pelvic portion would be equal in size to a full-grown fœtal head.

In making the above extent of opening, I bore in mind the maxim of Dr Clay, "that in all cases the incision should be proportioned to the size of the tumor to be removed."

The "minor operation," consisting of an incision of from one to three inches, originally suggested by Dr. W. Hunter, and first practised by Mr. Jeafferson, would have been of no avail to my patient, although it has been successful in cases of unilocular cysts.

The third, called also the "four-inched" or "median operation," proposed by Dr. Frederic Bird in 1843, would not have enabled me to meet all the obstacles I had to encounter, yet it has met with eminent success in the hands of its originator, who, up to 1847, had succeeded in seven cases, without one fatal result.

In performing the operation, I endeavoured to avoid some of the errors of my predecessors, as well as to benefit by their experience. The manner in which the pedicle was tied, by *two strong double ligatures*, I consider the best and safest practice; and strong reasons exist for supposing that two cases on record might have been saved if a similar plan had been pursued.

One of the fatal operations alluded to was performed at St. Thomas's Hospital by the eminent surgeon Mr. Solly, and is recorded in the MEDICAL GAZETTE of the 10th of July, 1846. The other is described as "case eighth," in Dr. Clay's very interesting "Results of Ovariotomy."

As a great deal has been written in some of the medical periodicals of the last few years, strongly decrying "ovariotomy" under almost any circumstances, however favourable, I cannot refrain from adding my humble opinion to others of more weight, that it is a perfectly legitimate and justifiable operation if performed on a person of an otherwise healthy constitution, and had recourse to in appropriate cases.

So far from recommending my patient to wait, as some of these writers would have done, till after "medicine" and "pressure," and "paracentesis abdominis," had been repeatedly resorted to, I considered that the best, if not the only chance she had of obtaining a "radical cure," was by having recourse to the operation before inflammation had set in, and consequent adhesions had formed. There had been no symptoms of peritonitis before the operation: the only pain complained of was the dragging of the pedicle of the tumor. Consequently I had only one adhesion to divide, and this had been caused evidently from the friction of the solid part of the cyst against the abdominal parietes.

The patient states that if it were not for the pain from tying the "root" of the tumor, she would be willing to undergo the operation a second time.

Bruton, Somerset, August 15, 1849.

P.S. I have in vain endeavoured to obtain the statistics of the operation up to the present time. It is due, however, to the following gentlemen to state that prompt and courteous replies have been received to inquiries on the subject from Dr. Clay, Messrs. Crisp, R. Druitt, Jeafferson, Lane, B. Phillips, Solly, and Southam, to all of whom I beg to acknowledge my obligations.

If any of the readers of the MEDICAL GAZETTE will kindly assist me in obtaining information on the subject, I shall be greatly indebted to them.

My object is to ascertain the number of operations that have occurred in England; in how many cases the cyst was removed *entire*; how many times the different operations by the "large," "median," and "minor" abdominal sections have been performed, and whether fatal or successful; and lastly, the results of those operations in which the tumor was found *unfit* for extirpation.

STATISTICS OF INSANITY.

DR. RUBIO, chief physician to the Queen of Spain, has published the following statistics of insanity:—

In Scotland the proportion of the insane to the sane, is 1 in 417; Canton of Geneva, 1 in 446; Norway, 1 in 550; Belgium, 1 in 816; England and Wales, 1 in 700; Prussia, 1 in 1000; Holland, 1 in 1230; Spain, 1 in 1667; France, 1 in 1733; Ireland, 1 in 2125; Italy, 1 in 3698; Piedmont, 1 in 5818. In France, Belgium, and Holland, the proportion of female lunatics is greater than of males. The reverse obtains in England, Prussia, Russia, Italy, Piedmont, and Spain. χ

CONTRIBUTIONS TO PATHOLOGY.

By W. E. Robbs.

Under Graduate, University of London.

1. *Sudden death—Disease of the brain—Effusion of serum in the ventricles — Suppuration — Ulceration and softening down of the substance of the brain with hydatids of plexus choroides.*

The following cases of sudden deaths occurred in my father's practice a few days back, and as inquests were held over the bodies, and post-mortem examinations deemed necessary by the coroner, I am induced to forward you the appearances, which may perhaps prove interesting to your readers. It too frequently happens that in cases of sudden death, where an inquiry may have been thought necessary, that the ridiculous verdict of "found dead," or died by the "visitation of God," has been recorded, while no one has suspected the true nature of the disease under which the individual may have laboured during life, or the real cause of death. It is with pleasure I record this fact, that our intelligent coroner (R. A. White, Esquire) will not be satisfied with such unsatisfactory evidence, but requires the clear testimony as to the absolute cause of death. A poor Irishman, whose name was unknown, was found lying on the road near Colsterworth, in a complete state of insensibility. Medical assistance was sought for him, and Mr. Barber very promptly attended, but found he was unable to get anything down the man's throat, he having lost the power of deglutition. After some delay he was removed to the Fever Hospital attached to the Grantham Union Workhouse, where, after a few hours, notwithstanding the very active measures employed, he died in this state. On the same day I assisted my father in an examination of the body. His external appearance was that of a large-framed man much emaciated. There existed no signs of external violence. On opening the head, the dura mater and other membranes were highly congested with dark-coloured blood. When the hemispheres of the cerebrum were separated, the corpus callosum presented a very convex appearance; the hemispheres were sliced away, the medullary and cineritious substance being studded with red points; the commissura magna was next divided each side of the raphe, and on raising it the lateral ventricles were found to be distended with serum. The plexus choroides were swimming in them, and attached to these were little bladders of fluid, in the opinion of my father hydatids. The corpora striata were smooth on their surface, but exceedingly soft, not bearing the slightest touch; on the surface of the thalami nervorum opticorum, ulceration had extended to a considerable degree, the circumference of the ulcers presenting a ragged film-like appearance. In the inferior or descending cornua we observed great softening down of the substance of the hippocampi major and adjacent parts, and the cornua themselves were distended with a sero-purulent fluid. The body of the fornix and its crura were of a soft cheesy substance, which would scarcely bear removing. On reflecting back its divided portions, the third ventricle was brought beautifully into sight, being distended with serum, and its different commissures very distinct, but so soft as not to bear being touched without mixing with the serum; the different foramina were also very distinct before the parts were disturbed. On looking for the pineal gland and corpora quadrigemina, we found only a thick fibrinous band, the remains of these bodies. The fourth ventricle was also filled with serum, and this was very nicely shown. The substance of the cerebellum and different processes from its crura were very soft. At the base of the skull about two ounces of serum were effused; the medulla oblongata was not so soft as the other parts. The contents of the chest were in a healthy state, with the exception of the immense engorgement of blood in the lungs and right side of the heart. In the abdomen the stomach was distended, and contained about a pint and a half of fluid; also a green vegetable substance half digested was to be observed: it was free from any poisonous matter, the mucous membrane being in its ordinary state. The liver was rather larger than natural, and much gorged with blood; the spleen presented a similar appearance. The kidneys healthy. The transverse arch of the colon and rectum very much distended with hard feculent matter.

The urinary bladder contained about a quart of urine.

2. *Sudden death from angina pectoris, and post-mortem appearances.*

John Jones, a drover, after eating a hasty dinner, being to all appearance in good health and spirits, adjourned to a public house for the purpose of obtaining some ale; while in conversation with some other man, he suddenly fell forward, and on being taken out of doors, was found to have expired. He had not been long in the house, and had not partaken of his beverage, although he had given orders for it. An inquest was held over the body, and a post-mortem examination took place on the following day. The external appearance of the corpse was that of a good-conditioned man; nothing indicating disease was to be observed, save a slight œdematous swelling of the legs. On opening the chest a little more difficulty than usual occurred in raising the sternum and cartilages of the ribs: this was produced by the firm adhesion to the pleura. The contents of the chest presented a very peculiar and striking appearance; the lungs had not contracted, as is usual after death, but the whole cavity of the chest was filled with their spongy substance, which was so firmly adherent to the ribs that it was impossible to separate them except with the edge of the scalpel. The pleuræ pulmonales and pleuræ costales were so firmly united and disorganised that they had lost altogether the character of serous membranes. No alteration in the structure of the substance of the bodies of the lungs, although their lobes were inseparable. The heart occupied a very large portion of the left side of the chest, and on attempting to open the pericardium, for the purpose of removing this organ, it was found that adhesion had taken place so firmly and perfectly, that it could not be effected; this was particularly observed where it rested on the diaphragm. The heart was then removed, when it was found to be very greatly hypertrophied, being more than twice its natural size. Much fatty matter was observed to cover round the circumference of its base and obtuse margin, adding considerably to its bulk. The auricles were large and distended with blood; their walls were flabby and of a soft texture. The coronary veins were large and full of blood. The ventricles were large, their walls thick, but soft and easily broken down by the finger, giving a greasy sensation. In the left ventricle the chordæ tendineæ and mitral valves were thickened. The semilunar valves in the aortic opening had become fibro-cartilaginous, which prevented them opening and closing perfectly; at the base of these valves a cartilaginous ring was formed. The diaphragm had the inferior lobes of the lungs and under surface of the heart adherent to its convex surface above, and below the liver and a portion of the spleen. The former organ was enlarged and granular, its substance being very firm; the latter congested and covered with fibrin, and adherent to the peritoneum. The stomach contained a mass of food taken but a short time before death; it consisted of potatoes, onions, and mutton; it appeared he had not taken any fluid during his dinner, but had taken a pint of ale previously. The lining membrane had a pink appearance, as if the process of digestion was about commencing. The small intestines had also a pinkish appearance, attributable to the ale he had previously taken; both the large and small intestines were greatly distended with gas. The kidneys and other organs of the abdomen were healthy. The head was not opened. In this case it is a fact, the wife of the deceased deposed, that her husband had enjoyed good health during the period of the sixteen years she had been married to him; occasionally in the winter season he complained of rheumatic pains of the joints, and pain of the back, but not more than people frequently do. He drank ale, but had not the character of a drunken man. He had followed the vocation of a drover for many years. There can be no doubt that when this disorganization of the serous membranes took place he must have been very bad, and suffered under severe inflammation, which terminated in an effusion of fibrin and adhesion. The only surprise is, that the deceased was able for so many years to follow his avocations with so little inconvenience.

Grantham, August 15, 1849.

ON THE

INTERNAL USE OF SEVERE OR BENUMBING COLD IN CHOLERA.

By James Arnott, M.D.
Brighton.

It is the general opinion that cholera in its early stage, or during the existence of the premonitory diarrhœa, may be easily checked by the administration of opium, chalk, and the vegetable astringents singly or combined. It can hardly be denied, however, that the cure of common diarrhœa must often be mistaken for that of Asiatic cholera during the prevalence of this epidemic; and if the latter disease is really thus frequently arrested, the theory that supposes the excretories of the digestive tube to be the safety-valve or emunctories of the choleraic poison in the blood, cannot be maintained.

The opinion is almost equally general, that in the advanced stage of cholera, when the irritable mucous coat of the stomach and intestine is profusely evacuating the animal fluids, and draining the blood of its serum, no expedient hitherto tried can be depended upon for arresting this dangerous discharge. It has been attempted, under these circumstances, to obviate the effects of the discharge by a supply of the watery and saline elements of the blood, in the hope that they will be absorbed; and to apply heat to, and excite counter-irritation on, the surface of the body. That calomel, opium, and other remedies of this class, would effect much change under this condition of the lining membrane of the digestive canal, is hardly to be expected; and the exhibition of alcoholic and other stimulants in this stage is not more condemned by theory (the irritation of the mucous membrane being thereby directly increased) than by the experience of their pernicious use.

The stage of cholera that succeeds the evacuation of the animal fluids, is as little under the influence of medical treatment as the latter stage of most other severe or dangerous diseases.

The stage of profuse evacuation—or what, from the supposed nature of the discharge, may be termed the hæmorrhagic stage—appears to have yielded more to the internal use of cold than to any other means. This is the natural or instinctive remedy: the patient is generally calling for cold drink, and appears relieved by taking it. And, in accordance with this dictate of Nature, pounded ice and large quantities of cold water have been prescribed. By a comparison of results of *large* numbers of cases of cholera treated in the various ways most commonly adopted (and it is only from a comparison of large numbers that a useful inference can be drawn), it appears that the least mortality has occurred when the remedy of internal cold has been principally confided in. This is a result which might have been expected. Though the mucous coat of the stomach may in this stage be incapable of absorption, and consequently the exhibition of medicines (in the usual sense of the term) be without avail, it is as much under the influence of cold as at any other time; and we know from daily observation, and the treatment of various irritations and hæmorrhages situated elsewhere, that no remedial means is more efficacious than cold, *when properly applied*, as a depressor or anti-irritant.

Now the greatest defect of cold, as it has hitherto been applied in cholera, has been its want of power or intensity. The *dose* has not been sufficient. And the dose or degree has been inadequate in consequence of the erroneous notion that the application to the animal structures of a degree of cold greater than the usual temperature of ice, would be injurious.

This long-existing error is much to be deplored. It has deprived the medical art of the most prompt, and perhaps the most powerful, and at the same time the most safe and controllable of therapeutic agents, applicable to a large proportion of the common and dangerous diseases characterised by vascular or nervous excitement. Because a certain degree of cold applied for a short time will cause reaction and irritation, it was wrong and unphilosophical to infer that a greater degree would produce a greater effect of the same kind. The very contrary is the result. The powerful depressent action of intense cold prevents reaction in the part which has been subjected to it. In a work which I have lately published, numerous cases are related

(cases occurring at a public institution) of erysipelas and other external inflammatory affections, and of various nervous and painful diseases, which were quickly, and often immediately, cured by cold even of a degree sufficient to cause congelation or freezing of the animal tissues; and though the remedy may have now been employed a thousand times, not once has any injurious effect followed its use.

I have to propose, therefore, as a remedy in cholera, the application of a degree of cold adequate to suppress the irritation of the digestive mucous membrane; and the unequivocal success from this practice in two cases, if it does not fully prove its value, strengthens, at least, the theoretical foundation of the recommendation.

The cold, to be effectual, should be of an intensity capable of quickly benumbing a finger immersed in it, or of about ten, or at least six degrees of Fahrenheit's thermometer below the temperature of dissolving ice. I think this will be an adequate degree of cold, provided the draughts communicating it be sufficient in quantity and often enough repeated: it proved to be so in the cases referred to. The draughts exhibited in these were prepared by putting a cylindrical tin vessel or canister containing about eight ounces of water, and having one or two teaspoonfuls of sugar or salt dissolved in it, into another larger vessel containing the usual freezing mixture of ice and salt employed by confectioners. The solution in the canister had been previously cooled to 32° of Fahren. by dropping a little pounded ice into it; and when it began to freeze, it was constantly stirred until the whole was converted into a thick gelatinous substance. To this jelly, a teaspoonful or two of salt was added just before it was administered, for the purpose of still farther reducing its temperature; and from six to eight ounces, or a tumblerful, was taken as a draught. A little lemon-juice will remove much of the nauseous taste of the salt.

It is almost unnecessary to observe, that until the particles of ice in the draughts are all dissolved, the intense cold will be preserved; whereas, when merely iced water is swallowed, its temperature begins to rise even before it has reached the stomach.

The cases of cholera in which this expedient has been tried, were those of a boy, aged fourteen, and of a man upwards of seventy, patients of the dispensary. To both, opium and calomel had been exhibited before the trial of cold, but without arresting the discharges, or being otherwise of apparent use. The discharges in the case of the boy were of the rice-water character, and collapse was imminent; in that of the old man, the copious excretions were still, in some degree, bilious; he was tortured with cramp, but his pulse was still very perceptible. Both patients took about two pints of the jelly-ice above described; and about a pint of the same mixture was in the boy's case administered by injection. The beneficial effect was soon discernible in both instances, but more quickly in that of the adult, who took the draughts more readily and in quicker succession. In half an hour the vomiting had entirely ceased, and the cure was completed by calomel and opium. In the other case there was no vomiting two hours after the first exhibition of cold draughts; and upon the cessation of the vomiting the pulse acquired strength, and the countenance animation. Both patients soon threw up the draughts containing most salt, but not until the cold had produced its full influence; and the stomach being thus emptied, the succeeding draught had, of course, more power. There are other modes of producing intense cold noticed by chemists, and applicable to such a purpose, which might perhaps in some cases be preferable.

The possibility of thus administering ice as a jelly is important as respects its use in other diseases accompanied with irritation of the stomach. Too often has the administration of ice in disease been a mere delusion from the difficulty of swallowing it quickly enough to produce any useful effect.

POISONOUS EFFECTS OF ARSENICAL PIGMENTS.

Dr. Basedow, of Mersberg, has ascertained that Scheele's green (arsenite of copper), when employed in painting apartments, &c. may give rise to the evolution of arseniuretted hydrogen under the influence of moisture, and has traced as its results the production of rheumatic and neuralgic pains, marasmus, and diseases of the skin.—*Journal de Chimie Médicale.* χ

MEDICAL GAZETTE.

FRIDAY, AUGUST 31, 1849.

THE occurrence of at least six trials for murder by arsenic during the recent assizes, has again attracted public attention to the dangerous facility with which arsenic and other deadly poisons may be procured. The writer of a letter to the *Times* thus expresses himself on the subject.

"SIR,—The sale of arsenic in small quantities, which alone has facilitated the commission of many murders, is a gratuitous, not a necessary evil. Rats and mice may be got rid of by other poisons. As to the farmer, who steeps his seed-wheat in arsenic to prevent the smut—or the maker of printed calicoes, or the shot-manufacturer—they all consume it by the pound; and people who do not consume it by the pound have no business with it in their possession; except persons who dispense it in medicine, but who need not therefore be vendors of the poison in a dangerous quantity.

"What, then, is the remedy for this crying evil? A short statute, forbidding, under penalty, the sale of less than — pounds of arsenic, and enacting that no person shall be a seller, unless empowered by an annual license; as, also, that he shall insert every sale in a register, to be produced whenever, and by whomsoever, called upon. The purchaser, too, should be required to sign a receipt for the arsenic (in a printed form), rendering him responsible in a pecuniary penalty for any injury to human life arising from it. And this receipt should be retained in the custody of the seller.

"By some such regulations these arsenic-assassinations would soon be stopped.

"ANTIDOTE."

Another writer, a practical man, who enters a little more into detail, makes the following suggestions:—

"SIR,—It must be admitted on all sides that it is necessary some restriction should be placed on the sale of arsenic.

"I have for some time past kept a register of my sale of arsenic, and I require the signature of the buyer or of a witness before I sell it to any one; this must act as a most salutary (perhaps efficient) check on its felonious administration, for few, after having signed to the fact of having purchased it, would dare to make use of it.

"A still more efficient and not at all vexatious restriction would be this:—

"That the law should make it imperative on all sellers of arsenic to keep such a register, and every month to send a copy of it to the coroner of the district where the purchaser lives, to be filed by him.

"That no mark "×" should be allowed instead of a signature; for persons who cannot write should not be trusted with it.

"That the seller should have sufficient knowledge of the buyer to know that it is the real name of the buyer.

"Uniform printed forms of register to be used at the seller's expense.

"None to be allowed to sell it except chemists taking out a patent medicine license.

"The regulations to be enforced by fines, &c.

"If the trouble is increased, the trade must increase the price.

"Yours,

"S. STURTON."

"Ely, August 7."

Undoubtedly objections might be urged to these as well as all other plans which have been hitherto recommended for the restriction of the sale of arsenic. They are all, however, resolvable into the lazy assertion, "*It can't be done.*"

If there be any truth in the maxim *salus populi suprema lex*, legislation on this subject cannot be much longer delayed. It is very likely that the first experiments to restrict the sale of poisons may fail: the regulations may be evaded, and much trouble may be thrown on druggists without any additional remuneration; but it is surely better to make the attempt to check these facilities for procuring poison, than to sit by and allow a series of atro-

cious murders to be perpetrated without making one solitary effort for their prevention. It is better that rats should multiply ad infinitum, than that a hecatomb of human beings should be yearly sacrificed by reason of the easy access to this deadly mineral. The life of any individual in the kingdom is now in the hands of the meanest beggar who can procure a penny; and the coroner's inquest affords no certain protection. Exhumations of the dead are continually taking place in all parts of the country, and arsenic is found in the bodies. Years, however, sometimes pass before these horrible revelations are made. Such a defective state of medical police is a disgrace to our boasted civilization, and the voice of the public and the profession should be loudly raised for an act to restrict the sale of poisons.

THE case of WILSON, recently convicted of murder at the Liverpool Assizes, presents many points of interest in relation to the plea of insanity in criminal cases. The following graphic summary of the facts proved on the trial is taken from a daily contemporary.*

"Mary Henrichson was the wife of a respectable merchant captain residing in Liverpool, but absent, at the time we speak of, on the high seas. She lived, with a single servant and her two sons, of the ages of five and three years respectively, in a small but decent dwelling-house, a portion of which she was in the habit of letting off to increase a somewhat scanty income, and satisfy with more facility the claims of her landlord. In the afternoon of the 27th of March last, a man named John Gleeson Wilson called to look at the apartments, and presently agreed to take them on the terms proposed. This was on a Tuesday, and that evening at ten o'clock, he took up his quarters in the room, and slept there. Next morning he went out, and returned again about eleven o'clock, just as Mrs. Henrichson was going on her usual errands to the market. What follows we may now tell straightforward, for if ever a case was indisputably proved in all its details, it is certainly this. As soon as the poor woman had quitted the house, Wilson went into the front parlour, which was not one of the rooms he had taken for himself, and there found the servant polishing the grate, with the two children playing about her. These he drove out of the room in a jocular manner, and then, taking up the tongs from the grate, inquired the price for which such a set of fire-irons could be obtained. Before the girl could answer he struck her a violent blow upon the skull, which left her senseless on the floor. The noise attracted the eldest boy to the spot, who was instantly butchered with the same weapon. The murderer then went into the scullery, where the younger boy was trying to hide himself, caught him, and with a carving knife which he found there, severed his head from his body all but a slight strip of skin. Three lives had thus been taken in little more than as many minutes; but the tragedy was not complete. In a short time, as the assassin knew, Mrs. Henrichson was to return from market. He planted himself in the lobby, and as she entered struck her down with the poker and beat her skull to atoms. He then went upstairs, ransacked the drawers, and quitted the house with all the valuables it contained in less than one hour from the time of the first blow, and in less than twelve from his first acquaintance with the family.

"Quick, however, as had been the butchery, the discovery and the retribution were scarcely slower. Before the clock had struck twelve the deed had been detected, and the officers of justice were upon the spot. Fortunately the poor servant girl still breathed, and lingered long enough in her agony to supply, by her dying depositions, not, indeed, a link which was wanting in the evidence of the murderer's guilt, but an irresistible and conclusive confirmation of the testimony which a most extraordinary concatenation of circumstances had combined to furnish. At twelve o'clock

* *Times*, Saturday, August 25.

the assassin was seen walking away in a direction leading naturally from the scene of his crimes; and it is not a little remarkable that though he carried no obvious vestiges of his bloody business about him, yet something in his manner seems to have so rivetted the attention of all persons whom he successively met, that his identity was sworn to without the smallest hesitation. At half-past 12 he was again seen, in a field near the town, washing his boots and trousers in a pit, and on this spot were found his handkerchief and the envelope of a letter which was sworn to have been in his possession that morning. Half an hour afterwards he offered Mrs. Henrichson's gold watch for sale at a pawnbroker's, and 15 minutes after this he purchased a new pair of trousers, and exchanged them in the shop for those he had on. This brings him nearly to 1 o'clock. Between 2 and 3 he entered another shop and bought a pair of new boots, which, as in the case of the trousers, he immediately put on. At half-past 3 he returned to some lodgings which he had been for some time occupying, and which he had not given up when he made the pretext of taking those of Mrs. Henrichson. Here his change of dress was noticed, as also a gold chain and a purse of money sworn to have belonged to the murdered woman. After borrowing of his real landlady a clean shirt, and leaving in its place one stained with blood, he went at 6 in the evening to a hairdresser's, and, under pretence of being shaved, asked for a wig. That night he passed with his wife, whom he had not visited for a considerable time. The next day, having bought a new cap, he went into a Jewish shop to effect if possible the sale of the watch. Here his demeanour was so suspicious that the owner of the establishment, speaking to his son in Hebrew, directed him to procure the services of a policeman, and he was speedily placed in custody, though not, as yet, for the murders. As the crime, however, and the description of the presumed criminal, were now notorious, he was soon identified as the man for whom pursuit was at that moment being made."

The atrocity of the crime, and the absence of what some call a *sufficient* motive, constitute the only grounds upon which a plea of insanity could be raised with any plausibility in this remarkable case. The counsel for the prisoner appears to have relied upon the former point, although he must have considered it a hopeless line of defence. He endeavoured to persuade the jury that the whole of the circumstances of the case showed that "whoever committed the murder was not an accountable being. The savage manner in which the children had been treated, the number of blows which had been inflicted upon the servant girl, when so much less violence would have been sufficient for the purpose of the murderer, tended to show that the person who inflicted them was not an accountable being."

This line of argument, as well as that derived from the sufficiency or insufficiency of motive, was well disposed of by the learned judge who tried the case. In his summing up his lordship said with great energy—

"I do not think there is the slightest possible evidence of insanity. I am obliged to state so openly, because really, if on account of the ferocity and brutality of the offence, a jury was to be told to presume a man to be insane, you might as well have no law or justice in society at all. This was really frightful; and I believe this is the first instance in which insanity was ever attempted to be set up from the brutality and ferocity that characterized the deed. There must be something to satisfy the minds of the jury that the prisoner was insane. But what was there here? There was nothing at all in particular, excepting the mere ferocity of it, from which I do not think that any one would draw the conclusion that the man did not know right from wrong. As to his not having such a motive as would induce a reasonable man to commit such a horrible murder —why, a reasonable man would not commit a murder at all. It was not a question whether a man had his right senses or reason in the sense that he could not control his passion. A man might commit a murder whilst labouring under a sudden fit of passion, or to gratify

revenge; but it was not for that reason that a jury was to say that a man was insane. A reasonable and well-judging man would not strike at all; and if we see from the evidence of a case that a man was really out of his mind, and did not know whether he was doing wrong or not; that his mind was entirely beyond his control; that he was not aware that what he did was wrong in the sight of God or man; then, in considering your verdict, such a man would not be answerable for his actions; but this really is the first time I have ever heard this sort of defence carried to the extravagant extent that, because the thing is so very ferocious, the man who committed it must be insane."

The Jury returned a verdict of Guilty.

In this case it will be perceived that there were the *premeditation* and *precaution* in the perpetration of this horrible series of murders, which indicate that the perpetrator must have been well aware of the nature of his acts and their consequences. The attempts at concealment on the part of the accused in endeavouring to wash the stains of blood from his clothes, and his subsequently giving them to a person whom he casually met in the street, as well as the fact that the murders were followed by robbery, are circumstances entirely adverse to the admission of the plea of homicidal insanity. They are acts clearly indicative of a crafty murderer, carrying out his purpose with a certain object in view, and endeavouring to baffle the efforts of justice. With the clearest evidence of this kind against him, it would have been preposterous to have allowed this criminal to escape on a plea of insanity, merely because the acts of violence were more than sufficient for the purpose of murder, and the motive for the perpetration of these acts was not sufficient to induce a reasonable man to commit such horrible crimes. If a plea of this sort were once received in a Court of justice, it would be impossible to convict of murder any criminal who had used more violence than was physiologically sufficient to account for death, or for whose acts a *normal* motive was not apparent! As the learned judge truly observed, we might, under these circumstances, just as well have no law or justice in society at all.

THE cholera is still on the increase. Considerably more than one half of the deaths registered during the week ending August 25 (2456), were due to this disease. As our readers will perceive by the weekly table, they amounted to 1272, making an average mortality not far short of 200 per diem. Since the return was made, the average daily deaths have even exceeded this number:—

August 23.

	Attacks.	Deaths.
In London and vicinity . .	400	176
In England and Wales . .	396	187
In Scotland	103	45
Total	899	408

August 24.

In London and vicinity . .	383	173
In England and Wales . .	389	153
In Scotland	50	29
Total	822	355

August 25.

In London and vicinity . .	404	169
In England and Wales . .	540	248
In Scotland	50	29
Total	994	446

August 26 *and* 27.

In London and vicinity . .	669	336
In England and Wales . .	463	221
In Scotland	83	34
Total	1215	591

August 28.		
In London and vicinity . .	415	183
In England and Wales . .	516	197
In Scotland	32	21
	963	401
August 29.		
In London and vicinity . .	468	250
In England and Wales . .	505	265
In Scotland	25	12
	998	527

The relative progress of this terrible pestilence throughout England and Wales during the same week, may be estimated from the subjoined table :—

Deaths from Cholera throughout Great Britain for the week ending August 25.

	Attacks.	Deaths.
In London and vicinity . .	2407	1103
In England and Wales . .	2406	1089
In Scotland	355	176
Total	5168	2368

To our metropolitan readers, the following table, which indicates the mortality caused by the disease in the different *districts* of the metropolis, during the short period of nine weeks, will prove of interest :—

Deaths by Cholera Registered in the Weeks ending—

	June 30.	July 7.	July 14.	July 21.	July 28.	Aug. 4.	Aug. 11.	Aug. 18.	Aug. 25.	Total of 48 weeks from Sept. 23.
West	14	7	29	46	43	58	54	81	103	533
North . . .	7	7	17	7	25	27	45	71	114	415
Central . . .	35	31	55	72	97	93	116	167	185	920
East	23	14	46	110	104	127	132	356	396	1600
South	45	93	192	443	514	621	476	554	478	4002
	124	152	339	678	783	926	823	1229	1296	7470

Of the large number of deaths from cholera (7470) which have occurred since September 1848, no fewer than 4002 have been registered in the south districts of London.

Reviews.

First Principles of Medicine. By Archibald Billing, M.D. A.M. F.R.S. 5th Edition, 8vo. pp. 332. London: Highley. 1849.

When the unanimous voice of the profession calls for a fifth edition of a medical work, it may be pronounced to have taken a lasting rank amongst its classics. It is under such circumstances that we call our readers' attention to Dr. Billing's "First Principles of Medicine." Few works on the principles of medicine reach a fifth edition, still more seldom is this the case during the lifetime of the author ; we can therefore readily believe that he can sympathise with the "ἐπόιει" of the ancient artist, when he at last sent forth the work which he had laboured to finish "ad unguem." That Dr. Billing has laboured to make the present, worthy the praise bestowed on former editions, will be seen, not from the quantity of additional matter which this contains, but from the care with which he has revised the whole. With the exception of the index, the new matter does not occupy twenty pages. But this rather confirms the verdict of the profession on previous editions, and shows the author's "principles" to be founded on nature. The great feature, however, and most valuable addition to the present volume, is the copious Index which the author, "in deference to the wishes of others," has now appended. This extends over twenty-one pages, and is so full that it must very considerably enhance the utility of the work

to practitioners. We should have admitted the justice of the author's views in withholding an index as before, provided his work had been but a brief manual for students, or had been limited in its circulation to that class of readers alone: then, in reference to the work before us, the time of these would have been well spent in making their own index to a volume so replete with the riches of knowledge and experience. But the book was always of equal value to the practitioner, whose occupations precluded the possibility of his completing such a task, and thus he was often debarred from the advantages of its consultation. We therefore congratulate ourselves and others on the publication of this fifth edition. Without dwelling upon the additions to which we have referred, we shall take occasion to bring before our readers some of the most striking peculiarities of Dr. Billing's views:—

"The contraction of the HEART is *muscular;* of the ARTERIES, *elastic*. The HEART *contracts* and relaxes *alternately*. The ARTERIES keep up a CONSTANT *contractile pressure* on their contents; not, as has been commonly supposed, an alternate contraction and relaxation, but a continued contractile effort, both longitudinally and transversely, which is overcome by the action of the heart: when there is much blood sent into them, they are distended; and if there be little blood sent into them, as after hæmorrhage, their tendency to contract causes them to close, so as to keep always full, and to preserve a continuous stream of blood, even during the temporary relaxation of the heart; and the ARTERIES YIELDING, and adapting themselves to the pressure of the heart, and RECONTRACTING on their contents, whilst the heart is relaxed and filling, is the CAUSE of the EQUABILITY of the STREAM in the VEINS." (p. 9.)

"It is necessary here to state distinctly my opinion respecting ACTION, as depending upon the NERVES. I consider that the *muscles* and *capillary arteries*, though *differing* in *tissue*, have each inherent in their structures a faculty of contracting, *organic contractility; this contractility* being *acted upon* by the *nervous influence*, the *result* is *contraction*, the nervous influence being discharged into them from the nerves. * * * * *

"A variety of circumstances leads us to the conclusion that the nervous influence is analogous to, or depending upon, if not identical with, the electrical principle, or fluid, whatever that be." (p. 17.)

Our readers have in the preceding and following extracts, the key to Dr. Billing's theory of inflammation, and of the action of remedies.

"It is very common to say, that in INFLAMMATION there is an increase of arterial action; but a consideration of the phenomena, and of the nature of arterial action, will show that in INFLAMED PARTS the CAPILLARY ARTERIES are WEAKER in their action; that there is DIMINISHED ARTERIAL ACTION, for the action of arteries is contraction: now the arteries in inflamed parts are evidently larger than before—less contracted; that is, acting less. * * * The way to diminish inflammation is by increasing the action of the arteries, as by cold or astringents, which make the arteries contract,—that is, increase their action; so that, so far from the arteries in an inflamed part being in a state of increased action, one means of *diminishing inflammation* is by increasing arterial *action* in the part inflamed. It is common to remark the *throbbing* of the carotid arteries as increased action; but the more they throb, it shows that they the *more yield* to the injecting force of the heart." (p. 24.)

"As the heart therefore acts against the capillaries, if we cannot cause them to contract strongly enough to resist its force, we are obliged to diminish the force of the circulation, either by taking away blood, which decreases both the quantity of blood sent to the arteries and the action of the heart itself, and in this way we leave less for the arteries of the inflamed part to do; or we can lower the force of the heart by medicines, such as digitalis, &c." (p. 26.)

"Without, therefore, at present seeking for further proofs, I deduce from blushing, and from the effects of electricity, fire, and cantharides, that the capillaries are dependent upon the nervous system for that tone or energy which preserves them from over-distension." (p. 30.).

The author's theory that inflammation is the result of loss of nervous energy, causing dilatation of the capillaries, and consequent retardation of the circulation, governs his pathological views in general, and influences his opinions of the modus operandi of the several classes of therapeutic agents, stimulants, sedatives, narcotics, and tonics. The consideration of Dr. Billing's views on the classification of remedies will also indicate to our readers other of the author's original pathological opinions.

In reference to stimulants, the author observes that their "effects are referrible to a two-fold operation, both upon the brain and nerves, and upon the

heart and capillaries. Each of these systems, the nervous and circulatory, is affected by a *local* and a *general* operation of the stimulus upon their respective centres." (p. 81.)

In the edition before us, Dr. Billing also remarks—

"Stimulants have been divided into 'diffusible' and 'local;' we shall see that in this, as in other instances, there are such gradations that it is difficult to assign the exact limits: they may be all said to be in a degree diffusible, *i. e.* all mix with the blood, and become diffused over the frame: we may take chloroform, ether, and alcohol, as the most rapidly and evidently diffused. Phosphorus is diffusible, but more slowly so, and more permanent in its operation; other substances act first upon the stomach, and then upon the other organs, as the heart, by sympathy, that is, from communication of the sympathetic nerve: this is the case with capsicum, pepper, mustard, and ammonia; for ammonia, though acting thus as a local and sympathetic stimulant, is so rapidly combined and changed chemically, that it does not circulate unaltered like the real diffusible stimulants. The essential oils (including camphor, a concrete essential oil), and the gum resins, balsams, &c., which contain them, are of a mixed nature, acting locally on the primæ viæ, and on the heart through the sympathetic; they are also partially circulated to the heart and brain."

"A sedative is that which diminishes the action of the heart and other organs by repressing the nervous influence." (p. 82.)

Tea and coffee the author places, with great justice, among direct sedatives.

"Wakefulness will be increased by introducing into the stomach a sedative, such as digitalis or green tea, which, by diminishing the force of the pulse, and by its influence on the brain, counteracts the plethora which would induce sleep." (p. 85.)

Although, as the author observes, it is sometimes difficult to convince persons that this is the real action of strong tea or coffee, yet we think that those who are in the habit of resorting to either for the purpose of enabling them to continue prolonged mental occupation, will, if they reflect on their own sensations, admit that the author's is the true explanation of their feeling of chilliness, starting at slight noises, fears of involuntary and imaginary dangers, and other symptoms of a state of nervousness which not unfrequently endures many months, or even years, after the occasion has passed. "The narcotic principle in drugs diminishes the sensibility of the nervous system, lessens the perception of external objects, and checks volition, thereby allaying pain and promoting sleep." (p. 88.) "Narcotics do not appear to alter the quantity of nervous influence, but merely to impede its communication." "They stop the conducting power of the nerves" in a manner which the author compares to pressure on the nerves of the arm which occurs when, in falling asleep with the arm over the back of a chair, the hand becomes asleep, or the sensation called "pins and needles" is felt.

"Tonics are substances which neither immediately nor sensibly call forth actions, like stimulants, nor repress them, like sedatives, but give power to the nervous system to generate or secrete the nervous influence by which the whole frame is strengthened." (p. 95.) These it is clear, from the largeness of the definition, "must always be considered in reference to disease: thus, different substances, which considered physiologically, or in health, belong to different classes, become, in disease, tonics." (p. 103.) In the last edition of his work, the author adds useful hints on the selection of tonics.

We would here also direct the reader's attention to an important point which Dr. Billing has very successfully elucidated.

"It does not appear to me that I used too strong an expression formerly in speaking of the confusion which has existed in medicine; and, as an example, I need only refer to one striking fact noticed in this work, that the two words *inflammation*, and *irritation*, which are most frequently in the mouths of medical men, are, up to this day, perpetually used in a double or equivocal sense. Inflammation is correctly used to imply disease, and incorrectly to signify the process by which the damage done by the disease is repaired. Irritation is perpetually incorrectly used to signify a state of disease, as it can only be correctly applied to the process whereby anything irritates, annoys, or overexcites a part; the irritant, irritating thing, whatever that be, by its operation (irritation) produces in the part morbid sensibility. One great objection to using the term irritation to imply disease is, that irritation (the act of irritating) produces sometimes inflammation and sometimes only morbid sensibility; but according to the old phraseology, *irritation* produces *irritation* and inflammation, and inflammation produces sympathetic

irritation and constitutional irritation, and sympathetic irritation and constitutional irritation arise from local irritation, &c. &c. In order to avoid this equivoque, I determined in the present edition to adopt the term *morbid sensibility* as the name for the diseased state usually implied by irritation only in its present state."—*Preface to third edition*, p. ix.

If words be not used, as has been said, expressly for the purpose of concealing ideas, it certainly is important that their meanings should be distinct; and for no occasion is this more needful than in reference to disease: the author has therefore done good service to pathology by clearing these terms of the confusion in which they were involved.

Dr. Billing's observations on cholera in this edition, though conveying the same opinions as in former editions, have been extended. The author's opinions on this subject have already been considered by us in our review of cholera pamphlets, in Vol. vii. N.S.

We must here conclude our notice of this work. By our commendation it can gain nothing. The profession has accorded to it the position it must ever hold in its literature. We can only add that the correction and revision of the last edition, with the addition of the index, has very greatly increased its usefulness. No practitioner can be said to be completely educated who has not studied Dr. Billing's writings.

Practical Observations on the Prevention, Causes, and Treatment, of Curvatures of the Spine: with Engravings and Woodcuts illustrative of the cases. By SAMUEL HARE, Surgeon. Third edition. 8vo. pp. 245. London: Churchill. Edinburgh: Maclachlan. Dublin: Fannin. 1849.

IN the introductory portion of this work, Mr. Hare takes occasion to impress upon the minds of his readers, the immense importance of early hygienic precautions, as regards the prevention of spinal distortion. Although the consideration of this point in the history of these deformities has been so repeatedly urged, yet there are many particulars in which they are so entirely overlooked even by medical practitioners, that we consider Mr. Hare's remarks by no means misplaced. On the contrary, they are deserving of every attention.

In considering the pathological nature of the various forms of spinal distortion, Mr. Hare divides them into three classes—1*st class*, 1, lateral curvature, rotated spine, serpentine or sigmoid spine; 2, excurvation; 3, incurvation.

2*nd class*, angular projection, caries, cancer, tubercular deposit.

3*rd class*, rickets, mollities ossium.

With the symptoms and effects of spinal distortion our readers are familiar: we shall therefore at once direct their attention to the peculiar features in Mr. Hare's treatment.

So far as mechanical assistance is concerned, the principles applied in the means recommended by the author are the recumbent posture on an inclined plane, horizontal traction by means of weights and pullies, and topical pressure by springs and pads adjusted at the required points.

The objects kept in view in the author's plan of treatment are—

"First.—By means of the inclined plane (which is equally well adapted for the supine and prone positions), with extension and pressure, gradually to bring the distorted part of the body into as near a form of symmetry as may be; and of course to keep it in that state.

"Second.—By frictions and shampooing, or in some cases by handswings or other gymnastic exercises, compatible with the first object of treatment, to develope those muscles which may have been inactive.

"Third.—During the time the patient is undergoing the mechanical treatment, there is full opportunity for adopting a proper course of medicines, the efficacy of which depends much upon steady and regular perseverance: the object being to improve the health, to forward the deposition of healthy ossific matter in the bones, and to assist nature in establishing the healthy function of each organ." (p. 110.)

In addition to these objects, the author lays great stress upon the adoption of a regular system of diet as essential to the beneficial operation of remedies, or of mechanical assistance.

The results of the method pursued by Mr. Hare, exhibited in the well-executed engravings which accompany many of the cases related, are most encouraging to the unfortunate sufferers under spinal distortion. So great are the amendments depicted, that they almost recal to mind the caricature we

remember to have seen in our boyhood, of sundry decrepid old people, reappearing from a certain mill, young, handsome, and active. From Mr. Hare's reputation and character, no ground exists for supposing exaggeration: we, therefore, unhesitatingly commend his work as a truthful and trustworthy statement of the power of scientific surgery and medicine over some of the most grievous hindrances to human activity and industry.

Medical Trials and Inquests.

CASE OF POISONING BY LOBELIA INFLATA. CHARGE OF MANSLAUGHTER.

THE report of the subjoined trial will be found of great interest in a toxicological view. The poisonous effects of *Lobelia Inflata* are only known to the profession by the results of the mischievous practices of quacks: and medical experience on this subject is likely to become considerably enlarged, if cases like that of Wood are dismissed upon such frivolous grounds.

CUMBERLAND SUMMER ASSIZES.
August, 1849.
(*Before Mr. Justice* PATTESON.)

JOHN WOOD (aged 24), a pupil of Dr. Coffin's, was placed in the dock, charged with having committed the crime of manslaughter, by administering to a young man named Thomas Wilson, a large quantity of *Lobelia Inflata*, a very powerful drug, whereby his death was caused.

Mr. BLISS and Mr. OVEREND appeared for the prosecution, and Mr. Sergeant WILKINS and Mr. JAMES for the prisoner.

Mr. BLISS, in addressing the jury, said the prisoner at the bar stood indicted with the serious crime of manslaughter; and he could assure them that the circumstances of the case were well worthy of their closest attention; for, although the consequences might not be very great to the prisoner, they were of the utmost importance to society, which had a great stake in the result of this trial. The law had wisely left the punishment to the discretion of the court; and, although the charge was in its terms such as might apply to an offence of an aggravated character, they did not charge the prisoner with having done anything for the purpose of injuring any human being; on the contrary they believed that he intended, and no doubt persuaded himself that, he was to do good. But the charge against him was that of having, under circumstances which involved gross ignorance and culpable rashness, administered to a fellow-creature a dangerous substance, which either produced his death, or threatened his life. And, if it were their opinion that such was really the case, it would be their duty to find the prisoner guilty. For the law required that no person should ignorantly and unadvisedly give to another any dangerous substance, however innocent and laudable might be the motives of the giver, since this involved him in the charge of gross ignorance and culpable rashness. He had administered to the deceased what was called *lobelia*, or *lobelia inflata*, a dangerous drug, and which had accelerated the death of the person to whom it had been given. It occurred at Maryport, in this county; the name of the deceased was Thomas Wilson, a young man of about 17 years of age, a joiner, living with his father, of the same trade, and both in the employ of the railway company. He had been labouring under what is called *peritonitis*. The 12th of April he complained that he was not well, and did not go to his work. On the 13th, he was a little better, and went to his work; but, on the 14th, he again became ill, and went home to his father and mother. The latter gave him a little tea of some kind, and he went to bed and went to asleep. On the morning of the 15th, he awoke much worse and in great pain. His father then sent for a person named Story, a blacksmith, and he gave him a little of the decoction of mountain flax. Between 4 and 5 o'clock on the same morning the deceased's father, at the request of his son, went for the prisoner, who immediately came and prescribed for him. He ordered an injection, which was composed of a teaspoonful of *lobelia* (about 60 grains), and an equal quantity of cayenne pepper, and of valerian root, &c. He also ordered an emetic, composed of the same substances, and in the same quantity as he had administered in the injection; and instructed that the deceased was to have a warm bath, and at 10 o'clock the same morning he repeated another emetic and injection. Thus, as they would observe, the prisoner had administered 120 grains as emetics, and 120 more as injections; in all, 240 grains of this *lobelia*. The unfortunate young man gradually grew worse; his parents became alarmed, and sent for a regular medical man, who would describe to them the state in which he found him. The action of the heart was feeble, and he was labouring under congestion of the brain. Another medical man, Mr. Curtis, was also called in, but the state in which the deceased was found was altogether past surgery and past medicine, and he died about half-past 4 o'clock that day. The medical men, who would be called

before them, would describe the symptoms under which he was labouring, and give a description of the body after death. The body was opened, and the medical men found that the deceased had been labouring under diseases of various kinds. They came to the conclusion that he had taken vegetable poison; and that his death had been occasioned or accelerated by the absorption into the system of some narcotic poison, which had been taken internally. An inquest was held at the instance of the chief officer of the town, the result of which was the committal of the prisoner at the bar to answer the charge now preferred against him. The charge rested upon whether it was dangerous to administer *lobelia* to a person like the deceased. As to the nature of the drug he (the learned counsel) knew nothing at all, nor they, perhaps; and under such circumstances—and as the law required—they would have to listen to the evidence of medical men, who alone were capable of understanding it. *Lobelia* was a vegetable—a native of North America—which grew from 16 to 18 inches high. It is often made into a powder, and then used both internally and by injection. It only became known to civilized man some fifty years ago, and has only been known to the medical profession of Britain for twenty or twenty-four years. It was the opinion of medical men that it was a narcotic and irritant poison, used with danger in almost all cases, and one which requires the greatest caution and experience to enable parties to use it with safety. He would read to them a portion of the books from which he derived his information; one of them was entitled, "Taylor on Poisons."

Mr. JAMES.—I do not know, my lord, whether it is usual to read from books in cases of this kind.

Mr. Justice PATTESON.—I think it may be read; but it cannot be used as evidence.

Mr. BLISS continued.—It was necessary to the right understanding of the question that they should have the best information respecting this drug. The learned gentleman then read extracts from works by Dr. Taylor and Dr. Christison, which corroborated what he had advanced respecting *lobelia*, namely, that it was a dangerous drug, and a deadly poison. This was the character of the vegetable substance called *lobelia* among the medical men of this country. They (the jury) would no doubt wonder that the prisoner at the bar should have the confidence to give it to anybody, but he (Mr. Bliss) would tell them how that had come to pass. There was in Maryport a *quasi* Botanical Society, which had been instituted by an American named Coffin, who went about the country lecturing and forming what he called Botanical Societies. And unfortunately there were persons who followed his prescriptions, out of the use of one of which he (Mr. Bliss) was sorry to say, the present case had arisen. The learned counsel then drew attention to a book which had been published by Dr. Coffin (as he was called), and observed that since the death of Wilson, the doctor and his pupils had been endeavouring, by means of lectures and publications, to influence public opinion on the issue of this case. The doctor, who said he had studied at the college of nature, told them that *lobelia* had long been used by the North American Indians, and could be given without danger and with success in almost every case, whether to the infant or to the aged man; that it never operated upon those in perfect health; and that, when administered, care should be taken to give enough. Never mind the Faculty, give enough! He prescribed it for almost all sorts of diseases: for hooping cough, jaundice, and gout, it was *lobelia;* for rheumatism for cholera and Asiatic cholera, it was *lobelia;* in short, it was *lobelia* for so many diseases that he would not attempt to mention all, lest he should try their patience. He added, that he often invited the faculty to discuss with him, but they seldom dared to meet him, and when they did come in his way, they never stood fire for more than a few minutes. Every man (continued the doctor) would now discharge the duties of physician to his family, and ere long the trade of the grave-digger would become a much less profitable one; but he (Mr. Bliss) was afraid that so long as there were Coffins in the world, there must be grave-diggers. The medical men had made several experiments with *lobelia* upon inferior animals, with the view of ascertaining the true nature of that drug, and it had proved fatal in all cases. The medical gentlemen had been attacked for the part they had taken in this affair: but he could assure the jury that those gentlemen had done nothing more than was dictated by feelings of humanity, and a desire for the public safety.

Mr. Serjeant WILKINS.—I request that the medical witnesses will go out of Court.

Mr. Justice PATTESON.—Certainly.

JOSEPH HAUGH, chief constable of Maryport.—I am prosecutor of this indictment. On Sunday the 16th of April, I heard of the death of Thomas Wilson, and went to his father to make inquiry into it, but he would give me no satisfaction; I therefore went to Dr. Pearson and Mr. Curtis, surgeons, whom I found together. I next went for the coroner, and summoned the jury for an inquest which was first held on the 17th of April, and twice afterwards by adjournment. The prisoner was present on these occasions. The doctors were examined on the first day. The prisoner also made a statement upon that day, but it was not upon oath.

Mr. Sergeant WILKINS here interposed.—I will swear that I did not see the prisoner examined upon oath the first day.

By His LORDSHIP.—I was present when he made his statement. The coroner cautioned him before he made it; he did so more than once.

By Mr. OVEREND.—The prisoner said he gave the deceased two emetics of *lobelia*, with other things which I can't recollect; also two injections containing the same drug. He said he had given a teaspoonful of *lobelia* in each emetic; also a teaspoonful in each injection. There is a society in Maryport called the Botanical Society, of which the prisoner is a member; there have been several lectures at it lately.

By Mr. Sergeant WILKINS.—I am dignified by the name of prosecutor in this case. The doctors made no communication to me; —yes, they said something to me, in consequence of which I sent for the coroner. I have not seen any of the depositions since the day they were signed upon the inquest. I take a memorandum of such matters myself, but I have not since compared the memorandum I took upon the inquest with the original depositions.

JOHN WILSON, father of the deceased.—I am a joiner by trade. My son was between 17 and 18 years of age, and of the same trade. On Thursday the 12th of April last he complained of being unwell; on Friday he was better; but on Saturday he became very ill about four o'clock in the afternoon. He shortly afterwards went to bed, and became worse early on the Sunday morning, when I went for an acquaintance named Story, who gave him some mountain-flax tea. I sent for the prisoner (whom I have known for four years) between four and five o'clock that morning. He showed me a case in Dr. Coffin's book, and, saying it was exactly like my son's, asked me if I was agreeable that he should act upon it, and I said I was. My son was also agreeable. He then gave my son a powder, which had a teaspoonful of *lobelia* in it. Four hours after he repeated it. I believe that he gave my son an injection also, but I was not present when it was administered. I believe that only one emetic was given; but I don't know how many injections. He continued at my house all day till 12 o'clock at night. He also gave my son a vapour bath. On the Sunday night my son was a little easier; but on the Monday morning he became worse. I called Dr. Pearson in about half-past seven o'clock that morning. My son gradually grew worse, and died about four o'clock the same afternoon. Dr. Pearson and Mr. Curtis held a consultation about him shortly before he died. I am not a member of the Botanical Society; but I once attended a lecture at it. The prisoner told me that he had it from a doctor that *lobelia* was not a poison.

By Mr. Sergeant WILKINS.—My son and the prisoner were much attached to each other. My son told me on the Sunday morning before his death that he had frequently been costive for three or four days together. He said he had been so from the Friday till the Sunday before his death. About eight o'clock on the Sunday night he complained of being cold at the lower part of his belly. He shrieked with pain about four o'clock that morning. I did not know till after his death that he had received a kick on the bottom of his belly from a donkey. The pain of which he complained continued until he took the emetic. He vomited freely afterwards, and the contents of his stomach were very filthy—the smell was very bad. After he vomited, the pain left him a little. Shortly after he had been in the vapour bath, the pain in his belly entirely left him. He had been unable before he went into the bath to vent any urine; but, upon coming out of it, there was a copious flow. When he was shrieking with pain, I put my hand upon his belly, and it was very hard. I saw him a little before he died; he was quite calm; there was no hiccupping—no convulsions.

John STORY, blacksmith, Maryport.—I am a member of the Botanical Society, and I believe that Dr. Coffin is at the head of that establishment. The prisoner is also a member of it. I don't know that he is in the habit of keeping medicines. I saw the deceased on the Saturday before death; also on the Sunday, about four o'clock in the morning, when he was very ill, and complained of a pain in the lower part of his belly. I then went for the prisoner, who came in a few minutes. I continued at the house for several hours. I saw the prisoner give the deceased some medicine about seven o'clock, but I can't say what it was. I saw it: it was like powders; there were three or four in different papers. They were all different kinds; one of a reddish colour; one brown; and one nearly slate colour. I can't tell what sort of powders they were; but I think I heard the prisoner say what sort they were; I believe he was then upon oath. I have seen *lobelia*, and I think one of those powders resembled that drug. There was better than a tablespoonful of that one. Another of the powders resembled cayenne papper. But I have not seen any drug which resembles the brown one. I saw Margaret Pearson give the deceased one injection, which the prisoner gave to her for that purpose.

By Mr. Sergeant WILKINS.—I don't know what the ingredients of the injection were.

Sarah Wilson, mother of the deceased.—I frequently heard my son complain of illness before the 12th of April last—generally of his belly and stomach. The first thing I gave him on the Saturday previous to his death was a glass of peppermint-water, and the next a glass of gin. I was present on the Sunday morning when the prisoner came, but I don't know what was done. His father and the prisoner were so kind to him that there was no occasion for my assistance.

By Mr. Sergeant Wilkins.—I have heard my son complain many a time—generally of a pain in his belly.

Margaret Pearson, wife of Robert Pearson, of Catherine Street, Maryport.—I was called in by the deceased's mother about seven o'clock on the morning of the 15th of April to attend him. The prisoner was there when I arrived. I first gave the deceased an injection, which the prisoner gave me; that was between seven and eight o'clock. I don't know what it was made of, but there was better than a gill of it. I gave him another at ten o'clock; the prisoner gave me it also. They were of a brownish colour. I administered some injections on the day following, at the suggestion of Dr. Pearson.

By Mr. Sergeant Wilkins.—Altogether I administered five—two by order of the prisoner, and three by order of Dr. Pearson.

By Mr. Bliss.—The two first injections came back in a minute or two. The deceased vomited two or three times after I gave him the injections.

William Lumb, Esq., coroner for the western division of Cumberland.—I held an inquest on the body of the deceased. I think the first day was on the 17th of April. It was adjourned to the 21st; and then to the 23rd. The prisoner was present, and made a statement upon oath, to the best of my belief on the second day of the inquest. None of the depositions were signed till the last day. The statement made was taken down in writing. I cautioned him two or three times before he made it. I have his deposition here.

Mr. Bliss.—I will put it in.

Mr. Sergeant Wilkins.—Does your Lordship think that that deposition can be used?

Mr. Justice Patteson.—Certainly not.

Mr. Bliss.—There is some doubt upon the point; but I don't wish to press the matter.

Mr. Overend drew his Lordship's attention to a case in Roscoe's Criminal Evidence.

Mr. Justice Patteson.—Yes; but I remember a case tried lately before my brother Williams, who is well acquainted with the law of evidence, which resembled this case much more. He admitted the document, and reserved the point; but the man was acquitted.

Mr. Bliss.—I do not wish to press it against your Lordship's inclination.

Joseph Haugh, recalled by Mr. Sergeant Wilkins.—I told the prisoner he had better go to the inquest, lest he should be wanted, and he replied that he would do so willingly. None of the witnesses were summoned; they merely received verbal notice to attend.

William Lumb, Esq., cross-examined by Mr. Sergeant Wilkins.—The medical men only were examined on the first day of the inquest. I could not well understand the subject on the first day; there was a long discussion between the medical men and myself as to whether there should be a post-mortem examination of the body, during which the prisoner frequently interrupted us. He produced some powers: I believe they were *lobelia*, valerian root, and cayenne pepper, and laughed at the medical men when they said that *lobelia* was a dangerous thing. He said if I liked he would take twice as much as he had given deceased, to prove that it was perfectly harmless. I think the prisoner said he had given the deceased a teaspoonful in each emetic, and another in each injection. To the best of my belief he was not examined upon oath the first day.

Mr. Sergeant Wilkins.—Can you tell me who is conducting this prosecution?

Witness.—Yes; Mr. Tyson, of Maryport.

Mr. Sergeant Wilkins.—Have you assisted him in any way?

Witness.—Certainly not, sir. I held the inquest, and left the chief constable to employ whom he thought proper.

Dr. Pearson, of Maryport.—I knew the deceased. I was first called to attend him the morning of the 17th of April last. I found him in bed, and he complained much of a pain in his belly, which was distended with air. I pressed his belly, but he did not complain much when I did so. His pulse was quick and small.

Mr. Justice Patteson.—Pray, speak out: I always have more trouble with medical men than with any other witnesses whatever.*

* This observation of his Lordship may have appeared very funny to the audience; and it was quite in accordance with the sneers of Mr. Sergeant Wilkins throughout the case against the medical profession; but we must take leave to say that it was both unjust and uncalled for. Mr. Justice Patteson, it is well known, labours under the infirmity of deafness. In a trial which took place at the Central Criminal Court a few years since, his Lordship so misunderstood the evidence given by a witness, *not* of the medical pro-

Witness continued.—His pulse was easily compressed; and his tongue was covered with a light-coloured fur. I prescribed castor oil and an injection for him. I considered him very ill, but not in a dangerous state. I treated him as labouring under constipation of the bowels. There were other diseases upon him at the time, which I ascertained after death. I saw him again at three or half-past three o'clock in the afternoon, when he was quite collapsed and the extremities cold. He was covered with a cold perspiration, with no pulse at the wrist. The pain in his belly still continued. His body was mottled, and the expression of his face very anxious. I called in Mr. Curtis, and consulted with him. We prescribed small doses of opium and brandy. The last time I saw him was about four o'clock; he was then dying, and had no hiccup or convulsions. He answered questions, but I could not depend upon his answers. I made a post-mortem examination of the body, assisted by Mr. Curtis and Mr. Syme. I made a memorandum at the time, the result of that examination. [Dr. Pearson here read his memorandum, which was long and very minute.*] From all the appearances, I concluded that the deceased had suffered from disease of long standing; he had a number of diseases upon him. The appearances also indicated that some substance of an acrid and narcotic nature had been given to him. The disease of long standing was inflammation of the covering of the bowels: it is called *peritonitis*. He also had inflammation of the gullet, stomach, and intestines, and congestion of the lungs and of the brain. From the local inflammation of the stomach and bowels, we drew the conclusion that some irritant poison had been given to him. Narcotic poison would have produced the congestion of the lungs and of the brain. *Lobelia* is, in my opinion, such a poison as would have produced all the appearances which I have described. It is a narcotic and irritant poison, and is not as yet admitted in the *Materia Medica* of England. I believe it has frequently been given for asthma; but I can't remember at present for what other diseases. For such a disease as I have described the patient to have been labouring under—*peritonitis*, I mean—*lobelia* was certainly not a proper medicine: it would have been improper in any quantity. From fifteen to twenty grains are generally given in one dose as an emetic. A teaspoon of an average size will hold about sixty grains. I don't think there is any case in which sixty grains would be a proper medicine. It would be a very dangerous dose indeed. Supposing it were given as an injection, it effects would be the same as when given by the stomach, except that it would not be so powerful.

By Mr. Justice Patteson.—If it were returned immediately and entirely, of course it would have no action at all.

By Mr. Bliss.—It would cause vomiting when given as an injection in about fifteen minutes. Judging from what we found upon the inferior animals, if swallowed it might produce effects in about seven minutes; it might cause vomiting in that time, and it might also cause other effects. In my opinion sixty grains might produce the death of a person of the deceased's age in about forty-eight hours. In consequence of this death, I afterwards made experiments with *lobelia* upon inferior animals—upon the hedgehog and the cat—with a view of conclusively ascertaining its effects; it invariably proved fatal to these animals; and dissection of them confirmed the opinion I had formed of the death of the deceased. Something in the appearance of the deceased before death caused me to suppose there was more than ordinary disease. Those appearances pointed to some depressing poison. Sixty grains of *lobelia* administered on the Sunday, would account for the appearances which I saw on the Monday. Assuming that *lobelia* had been given to the deceased, I think it was not the sole cause of his death. Independent of its symptoms, I think the chronic disease would have proved fatal; but I have no doubt that death was accelerated by it. The congestion of the brain would contribute to the acceleration of death. Mountain flax or yarrow tea would not have produced any of the results I have spoken of.

By Mr. Sergeant Wilkins.—I obtained my degree as a physician from Edinburgh. I have been in practice five years. Except in this instance, I never saw a patient labouring under the influence of *lobelia*. I know that many vegetables that are poisonous to human beings are food for animals of the brute creation. I know that hemlock is one of that class: it is taken by the goat. The bowels of the deceased refused to act—I mean to expel their contents; but I had ascertained that he had had no motion for four days before I discovered that. In my opinion, at the time I administered the castor oil there was not more than the ordinary contents in the bowels. Supposing that the bowels were constipated, and that there was an obstruction, it might produce inflamma-

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fession, as to call for some serious comments on the summing up, in the *Times* newspaper. We quite agree in the view taken by our contemporary, that a good average power of hearing is indispensable to the office of a judge. He should have one ear for the plaintiff, and the other for the defendant. If he continue to act in spite of defective hearing, it is not fair to visit upon the unfortunate witness the results of his own infirmity.—Ed. Gaz.

* We shall give a copy of Dr. Pearson's and Mr. Curtis's medical report of the case in the next number.—Ed. Gaz.

tion of the bowels, which is a frequent cause of death. That inflammation might extend to the stomach, but it does not do so frequently. I cannot say that it might not also produce congestion of the brain. And, supposing death to be the result, we might observe anxiety of countenance. It will of necessity produce a furred tongue; and, in the end, small irregular pulse and coldness of the extremities. It might also prevent the passage of the urine, and cause perhaps that mottled or livid appearance of which I spoke. Opium may undoubtedly depress the vital faculties. Supposing that the emetic had produced copious vomiting, that would undoubtedly have decreased the power of the *lobelia*. *Lobelia* used as an injection might remain in the body a quarter of an hour before producing deleterious effects. Supposing that I had not heard of what the young man had died, and had been called in to the *post-mortem* examination, I would have attributed his death to some depressing irritant. I did not think that he would ultimately have recovered under any circumstances. As a general rule, in the case of death produced by narcotico-irritant poisons, something in the shape of convulsion takes place. In the chest there were adhesions of old standing: they indicate previous inflammation. The diseases of the lungs and pleuræ were also of long duration. I wrote to a gentleman in London upon this subject, but—

Mr. Bliss.—You need not answer that.

Witness.—But I did not ask him to arm me at all points against I came to the trial.

By Mr. Bliss.—*Lobelia* by injection I think must be in the body a quarter of an hour before it will produce vomiting; but it may produce deleterious effects in seven minutes if swallowed.

Mr. Overend.—I have to request, my Lord, that Dr. Elliott be allowed to remain in court while Mr. Curtis is being examined upon the *post-mortem* examination of the body.

Mr. Sergeant Wilkins.—I object to that.

Mr. Justice Patteson confirmed the learned Sergeant's objection.*

Mr. Curtis and Mr. Syme, both surgeons in Maryport, and who assisted in making the *post-mortem* examination, were next examined at great length; but their evidence, though ably given, amounted to little more than a general confirmation of what Dr. Pearson had already advanced. They were rather roughly handled by Mr. Sergeant Wilkins in cross-examination.

Dr. Elliot was here called to speak to the medicinal and poisonous action of *lobelia inflata*, but Mr. Sergeant Wilkins again objected. After discussion, his Lordship overruled the objection.

Dr. Robert Elliot, of Carlisle, deposed.—I have been lecturer on *materia medica* in a school of medicine for many years. I am practically acquainted with *lobelia inflata*. It depends much upon the dose whether that drug will prove poisonous or not. I should limit each dose to a grain or two, according to age. I should prefer giving it in tincture; ten drops of tincture (a dose I should think of giving) would contain between one and two grains of *lobelia*. That would be a safe dose. Twenty grains is a very large dose—decidedly improper, as bordering on the unsafe. In my judgment, sixty grains would be a very unsafe dose. Some time ago I was engaged in a case of this kind which had nearly proved fatal. From all I could learn between fifty and sixty grains had been administered.

Mr. Sergeant Wilkins.—Had you any means of ascertaining the exact quantity, Dr. Elliott?

Witness.—No; but from all I could learn between fifty and sixty grains had been administered. Its effects were—extreme prostration, coldness of the surface, and a small irregular pulse. At the time I was called in there was no vomiting, but there was nausea. I took means to cause vomiting, and I succeeded. The patient's countenance was contracted; her lips livid; and her mind wandered a little. These were the principal symptoms. There were neither convulsions nor hiccuping. I gave her mustard and warm water, which produced vomiting. I had then to cause brandy and water to be repeated at intervals. The woman recovered in the course of a few days. In my judgment, *lobelia* ought not to be administered in a case of *peritonitis*. Supposing a person were suffering from a stoppage in the bowels, I would say *lobelia* ought not to be administered. In any case, from what I know of that drug, I consider such use of it as an emetic, or as a purgative, decidedly dangerous, and on no account to be had recourse to so long as we have other medicines that will answer the same purpose.

By Mr. Sergeant Wilkins.—I have heard that tobacco-juice has been used as injections; I have heard of medical men using it; but I would not recommend it on any account, because I think it extremely dangerous. In the case (from my own practice) to which I have just referred, it is my opinion that vomiting saved the patient's life. I have known a large dose of arsenic produce less danger than a small one, on

* It is the general usage that medical men should remain in Court to hear the evidence. This is especially necessary if they are called upon to give an opinion from the evidence. In all defences which are of a desperate kind, where the development of the whole truth would be inconvenient to the prisoner's case, it is the practice of some sharp counsel to insist upon their expulsion.—Ed. Gaz.

account of its compelling itself to be thrown off.

By Mr. Bliss.—I don't approve of tobacco-juice being used. The medical profession, from actual trial, generally consider its action so uncertain and so hazardous; it might prove even fatal.

Mr. Bliss.—That is my case, my lord.

Mr. Sergeant Wilkins then addressed the jury for the prisoner. He made an eloquent and argumentative defence; but we regret to say that the darkness of the court (it being then half-past eight o'clock) prevented our reporting it. He said this case had been most ingeniously got up, and his learned friend (Mr. Bliss) had made extraordinary exertion to secure the conviction of the young man in the dock, whose moral character was without a stain. It had been said that the chief constable of Maryport was the prosecutor of this indictment, but he had no doubt the jury would see the absurdity of such a statement. There was little doubt that the doctors, in the plenitude of their humanity (for which his learned friend had given them great credit), had more to do with this prosecution than was creditable to them. His learned friend had thought proper to be very facetious upon Mr. Coffin; but he (Mr. Sergeant Wilkins) thought that there were many passages in his work which might be read by the doctors with advantage. He had had the honour of having been a student of that truly great man, Dr. (!) Abernethy, and it was his fixed opinion that the doctors killed more than they cured. And he would ask, who was it that hunted to death the immortal Harvey, the great discoverer of the circulation of the blood? Why, it was his brethren—the doctors. The learned Sergeant then proceeded to deal with the evidence in his usual happy and masterly style; and concluded by an eloquent appeal to the *common sense* of the jury.

His Lordship briefly summed up, observing that if the death of the unfortunate young man had been hastened by the administration of *lobelia*, they must find the prisoner guilty; if not, they must acquit him.

The jury, after a short consultation, returned a verdict of *Not Guilty*, which was received with clapping of hands.

His Lordship (addressing the prisoner) said—I would advise you to abstain from giving that medicine at all, as you don't understand it. If you do so again, and any person should die in consequence, you may depend upon it that you will be severely punished.

*** The verdict was, in our view, clearly against the medical facts of the case. The symptoms and appearances observed in the body leave no doubt that the death of the deceased was accelerated, and therefore, in point of law, *caused* by the administration of lobelia. The state of the œsophagus, stomach, and bowels could be explained only on the supposition that the deceased had died from an overdose of lobelia. Instead of endeavouring to explain how these appearances might be reconciled with the previous illness of the deceased, Mr. Sergeant Wilkins, the counsel for the prisoner, directed his defence to a general attack on the medical profession. We infer from his remarks that people have a right either to poison themselves with lobelia, or to be poisoned by others, and it is only a selfish trick on the part of the doctors who "hunted to death the immortal Harvey," &c. to raise up these prosecutions on the score of humanity, &c. The assertion that doctors killed more than they cured, and therefore by implication that quacks cured more than they killed, appears to have had a wonderful effect on the common sense of a Cumberland jury. As the report tells us, the learned sergeant dealt with the evidence in his "usual happy and masterly style;" which consists in concealing the real medical bearings of a case, and in making a sentimental appeal to the prejudices of the jury. This "happy and masterly style" of disposing of medical facts has been one of the evil results of the Prisoners' Counsel Bill. A "masterly" defence may at any time be purchased by a wealthy criminal; but there is no Attorney-General to protect the *public* interests, and see that justice is really done, and sophistry fairly exposed.

The verdict of *not guilty* implies of course that the man did not die from the poisonous effects of lobelia, and that the prisoner did no harm in prescribing it for him. This is somewhat inconsistent with his Lordship's address to the prisoner:—"I would advise you to abstain from giving that medicine at all, as you don't understand it. If you do so again, and any person should die in consequence, you may depend upon it that you will be severely punished." This rather reminds us of an Old Bailey jury acquitting a prisoner charged with highway robbery, and at the same time recommending him

never to do so again! His Lordship's threat of future punishment is not, in our opinion, likely to be of much avail so long as Mr. Wood can pay for a "masterly" defence, and the case is submitted to a Cumberland jury.

Correspondence.

ON THE MORTALITY FROM CHOLERA IN THE METROPOLIS IN 1832.

SIR,—I am exceedingly unwilling at any time to force myself into notice when a statement has been printed inaccurate only about myself, but you must allow me to claim the priority in publishing the statistical details of the cholera in 1832, Dr. Copland having merely transferred my figures to his pages.* Finding that no complete account of the cholera had ever been published, I obtained, in 1844, a copy of the summary of cases returned to the Board of Health in 1831-2, and preserved in the Privy Council Office, and published extensive extracts from this in the twenty-seventh volume of the Medico-Chirurgical Transactions, and this still remains the only statistical account ever printed as a whole. I regret that it is imperfect, but the figures are exact copies of those transcribed for my use. This copy I shall be happy to show to any one who will favour me with a call.

To the volume of the Transactions preserved in the library of the Royal Medical and Chirurgical Society, I have added in manuscript the detail of the cases in London in 1832, as published in the first report of the Metropolitan Sanitary Commissioners last year.

I fear that the comparisons you have attempted to draw in your last leading article, between the number of cases and deaths in 1832 and 1849, cannot be completed, for the registration of cases at present is so much more perfect than at that time. I cannot give a better specimen of the possible inaccuracy of the summary published by me, and consequently of the difficulty of drawing comparisons, than by quoting two official reports of the ravages of cholera at Bilston in 1832, one from the returns of the Board of Health, the other from a very valuable account of the cholera at Bilston, published by the Rev. W. Leigh, the incumbent of the parish, from the official records of the Local Board of Health :—

	First day.	Last day.	Cases.	Deaths.	Recoveries.	Proportion of cases to deaths.	Population.
Bd. of Health	Aug. 4.	Sept. 29	2,250	693	1,557	31 per cent.	14,492
Rev. W. Leigh	Aug. 4.	Sept. 21	3,568	742		1 in 5	14,700

Proportion of cases to population..... $15\frac{1}{2}$ per cent. = 1 in 4.
Proportion of deaths to populations..... $4\frac{7}{8}$ per cent. = 1 in 20.†

It is a curious coincidence that the Board of Health's report in 1832, made the proportion of the total deaths in London to be $47\frac{7}{8}$ per cent., whereas you have just calculated the proportion, at the time of almost the greatest virulencc of the disease, to be 50 per cent. ; a similarity which seems to show that the present attack is very little, if at all, more destructive (*i. e.* in proportion to the number of cases.—ED. GAZ.) than that of 1832.—I am, sir,

Your obedient servant,
S. W. J. MERRIMAN, M.D.

34, Brook Street, Grosvenor Square,
27th August, 1849.

TREATMENT OF CHOLERA BY TRANSFUSION.

SIR,—Against this intractable disease almost everything has been used, but I have not heard of transfusion having been tried. I think there are indications in a certain stage of cholera in which it possibly *might* prove remedial, when joined with the administration of chloroform.—I am, sir,

Your obedient servant,
G. H. WEATHERHEAD, M.D.

Vale Lodge, Hampstead,
August 27, 1849.

* In Dr. Copland's Dictionary the deaths in London are printed as 5,273, it should be 5,275.

† This would be more accurately stated at 21 per cent. but approximate ratios only were calculated.

THE ARMY AND NAVY MEDICAL DEPARTMENTS.

SIR,—In a recent number of your valuable journal (June 22, 1849), you make a comparison between the medical departments of the Army and Navy, unfavourable to the activity of the latter as far as regards the publication of statistical reports. This comparison has been thought by some naval surgeons to reflect upon the industry of Dr. Bryson, the gentleman entrusted with the publication of those reports, The facts of the case, however, are as follows :—

No work on medical statistics has emanated from the Army Medical Board since 1841, when the "Statistics of Diseases among the Troops on the West Coast of Africa, St. Helena, &c." appeared. Since that time Dr. Bryson, of the Naval Department, has published the works recently reviewed by your-

self, compiled from documents in the office of the Director General of the Department, on the "Climate and principal Diseases of the African Station;" and an "Account of the Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone," in reply to Sir William Pym's attack upon Sir Wm. Burnett. Dr. Bryson has also written the article on Medical Statistics in the recently published "Admiralty Manual of Scientific Inquiry."

I may also inform you that the report on the "South American, West Indian, and Mediterranean Stations," is now in the press, having been ready for several months. This has been compiled by Dr. Bryson; and when you know that this gentleman has to inspect the journals and medical returns of all ships employed in our various naval stations, besides being employed in the daily routine of other duties in the office of his department, it is a matter of surprise that one man should have been able to do so much without professional assistance. I trust, therefore, that you will remove the unfavourable impression your former remarks have produced; and I have the honour to be, sir,

Your obedient servant,

A Naval Surgeon.

August, 1849.

*** We said nothing which could bear the construction complained of by our correspondent. We did not wish to make any invidious comparison between the merits of the reports of the Army Medical Department and those of Dr. Bryson on the Diseases of the African Station, and therefore, putting out of sight Dr. Bryson's non-official publications, we have nothing to say as to the relative activity of the two departments since the publication of Dr. Wilson's reports on the Health of the Navy. We did not know that other reports were in the press, and are glad to find such to be the case. If, as our correspondent hints, Dr. Bryson has too much to do in office routine to attend to the Statistics without "professional assistance," surely that assistance should be afforded to him for carrying out so important an object. In the Army Medical Department we believe three or four gentlemen are exclusively occupied in the preparation of these useful documents.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 23rd of August, 1849:—Benjamin Webster, Morley Lodge, Leeds—Rawson Senior, Batley, near Dewsbury, Yorkshire — John Earnshaw, Clitheroe, Lancashire — George Burnham, Great Grimsby.

Medical Intelligence.

UNIVERSITY OF LONDON.

FIRST EXAMINATION FOR THE DEGREE OF M. B.—1849.

EXAMINATION FOR HONOURS.

Anatomy and Physiology.

Pardey, Charles, *Exhibition and Gold Medal*, King's College.
Thompson, Henry, *Gold Medal*, University College.
Neale, Richard, University College.
Duthoit, Thomas James, St. Bartholomew's Hospital.
May, George, King's College.
Langham, John Phillipson, University College.
Head, Edwd. Abraham Hancock, King's College.

Chemistry.

Pardey, Charles, *Gold Medal*, King's College.
Odling, William, *Gold Medal*, Guy's Hospital.
Head, Edwd. Abraham Hancock, King's College.
Thomson, Henry, University College.

Materia Medica and Pharmaceutical Chemistry.

May, George, *Exhibition and Gold Medal*, King's College.
Odling, William, *Gold Medal*, Guy's Hospital.
Pardey, Charles, King's College.
Houlton, Joseph, Charing Cross Hospital.
Neale, Richard, University College.
Head, Edwd. Abraham Hancock, King's College.
Stocker, John Sherwood, Guy's Hospital.

Botany.

Pardey, Charles, *Gold Medal*, King's College.
Neale, Richard, University College.
Odling, William, Guy's Hospital.

THE CHOLERA IN IRELAND.

Dublin—From August 21st to 27th, inclusive.

	Remaining.	Admitted.	Discharged.	Died.	Remaining.
Green-street Hospital .	33	71	34	35	35
Total . . .	—	905	414	456	35
Brunswick-st. Hosp.	10	13	12	5	6
Total. . . .	—	444	234	204	6
Kilmainham Hospital .	39	64	27	34	42
Total . . .	—	994	468	484	42

Belfast, Aug. 23rd.—New cases during the past week 51 ; deaths 28.

Ballina, Castlebar, Crossmolina.—The reports this week are more favourable from these and other parts of Mayo.

Borrisokane, Nenagh.—The hospitals are about to be closed here, the disease having subsided.

Waterford.—A few cases still occasionally occur. Total since the opening of the hospitals, 629 ; deaths 182.

The disease prevails at present in the Ballinasloe, Cashel, Cork, Dingle, Downpatrick, and Youghal Unions.

THE CHOLERA AT NEW YORK.

According to the latest accounts the cholera epidemic was on the decline at New York. The cases for the week ending 12th inst. were 609 ; deaths 283.

ROYAL ORTHOPÆDIC HOSPITAL.

A half-yearly general meeting of the governors and patrons of this charity was recently held at the hospital, Bloomsbury Square. The report of the committee announced that a gratifying increase had taken place in the funds of the institution during the last year, but still the institution was quite inadequate to meet the numerous applications for relief daily made to it. The out-patients alone were increasing at the rate of forty per week ; that was, that forty fresh applications were made weekly, aud the in-door accommodation had been greatly extended. The total number of patients admitted during the past half year, up to the 22d instant, amounted to 765, being an increase of 24 over the previous half year, and making a total admitted since the opening of the charity of 8585. The report was received and adopted, and the Court separated.

ROYAL INFIRMARY FOR CHILDREN. MEDICAL APPOINTMENT.

Dr. S. Wm. J. Merriman has been this day elected one of the physicians of the Royal Infirmary for Children.

PROPOSED FOUNDATION OF A HOMŒOPATHIC HOSPITAL IN LONDON.

A meeting of the Homœopathic Association, of which the Duke of Beaufort and the Marquis of Anglesey are President and Vice-President, was held on Wednesday evening at Willis's Rooms. The report stated the number of members to be 1270, and also that 1300 volumes, and 11,000 pamphlets on homœopathy, had been distributed by the association during the current year. After an address from the Chairman, Mr. Sampson, followed by speeches from Captain Warde, R.A., the Hon. Augustus Moreton, Thomas Uwins, R.A., Drs. Quin, Chapman, C. Holland, and others, a resolution was carried for the immediate establishment of a London Homœopathic Hospital.

THE NEW MEDICAL DIRECTORY, 1850.

We feel it necessary to direct the attention of our readers to the fact that the Medical Directory is now in the hands of a responsible publisher, Mr. Churchill, of Princes Street. In a circular before us, Mr. Churchill announces his intention of sparing no efforts to improve this work and rendering it more correct. We have more than once recorded our opinion, that in the absence of a legal register, this is really a most useful and valuable publication; and considering that no penalty is attached to a misdescription of qualification, it is on the whole very correct. It rests with the profession to improve it by returning candid answers to the queries sent to them. Each member should state fairly and openly, as if upon oath, his *real qualification*, and the *date thereof*. The book is now in the hands of members of the Bar, and any untrue description may therefore lead hereafter to a serious exposure in a Court of Law. Many have hitherto described themselves as M.D.'s who have no claim to that title. In the present edition, unless the University, granting the degree, be inserted, the title will not be registered. Other improvements have been suggested, which will greatly add to the value of the volume for 1850.

A NEW DISINFECTING APPARATUS.

A very simple and cheap apparatus has been contrived by Mr. Charles Watts, formerly editor of *The Chemist*, for the purpose of disinfecting apartments or other localities in which foul effluvia abound. It consists of a wide glass with a perforated mahogany top, in the centre of which is plunged a glass vessel shaped like a wide percolator. This vessel is intended to hold the muriatic acid, which, by a slight management of the stopper, can be allowed to drop *guttatim*, to flow in a stream, or to be altogether cut off, at the option of the person using it. The lower glass may contain oxide of manganese, sulphite of soda, or other chemical compounds which undergo decomposition on contact with muriatic acid. The evolution of the gas may be greatly expedited, if required, by placing this lower glass on heated sand or in a vessel of warm water.

An apparatus of this kind is now urgently required for the use of hospitals, infirmaries, and the dwellings of the poor. It is made by Messrs. Heathfield and Burgess, Chemists, &c., Princes Street, Finsbury, and is sold for a few shillings. It is cleanly, portable, safe from any overflow of acid, and likely to be effectual in all cases in which chlorine can act as a disinfectant.

THE CONVENTION OF POOR LAW MEDICAL OFFICERS AND THE MEDICAL CORPORATIONS.

4, Hanover Square, Aug. 21st, 1849.

SIR,—I am desired by the Committee to request the favour of your publishing in the next number of the MEDICAL GAZETTE, the following copy of a letter addressed to the Royal Colleges of Physicians and Surgeons, and the Apothecaries' Society, together with the answers received from those bodies in reply to that communication.—I am, sir,

Your obedient servant,
CHARLES J. F. LORD.
Hon. Sec.

(*Copy.*)

Committee of Poor Law Medical Officers,
4, Hanover Square, July 27th, 1849.

GENTLEMEN,—Remembering the courteous reception given last year by you to the Deputation, and the assurance of sympathy and promises of co-operation with which they were favoured, the Committee feel that they would be blameable if they did not now point out the manner in which your influence may be beneficially exercised in their behalf.

A second Deputation from the Committee having been received recently by the President of the Poor Law Board, the Committee are of opinion that the general interests of the Union Surgeons may be advanced by your College memorializing the Poor Law Board, and petitioning both Houses of Parliament in favour of an improved system of medical relief to the sick poor.

The plan submitted last year as suggestions to Sir George Grey, is by no means binding in *detail*, although the three grand features of it are still held by the Committee to be as essential to the best interests of the sick poor as they are to the just position, and equitable, though modest requital, of the Poor Law Medical Officers. These, as set forth in a recent Petition to Parliament, adopted, and extensively signed at a large meeting presided over by Lord Ashley, consist—

1st. In permanence of appointment during the capability and good conduct of the medical officer.

2nd. In payment proportioned to the extent and character of his duties.

3rd. In responsibility to professional authority through a Medical Board.

The Committee hereby beg the favour of your applying to the Poor Law Board, and to Parliament, in favour of these principles, as a step conducive to the interests of the sick poor, of the profession generally (the Union Medical Officers more especially), and of society at large.—We have the honour to be, gentlemen,

Yours very respectfully,
THOMAS HODGKIN, M.D.,
Chairman.
CHARLES F. J. LORD,
Hon. Sec.

To the President and Censors of the Royal College of Physicians.

(*Copy.*)

College of Physicians,
July 3rd, 1849.

SIR,—Your letter of the 27th ultimo, addressed to the President and Censors of the Royal College of Physicians, has been laid before their Board, and in reply to it, I am directed to state to you that their Board has already petitioned the House of Commons in favour of the suggestions made at the meeting which was presided over by Lord Ashley.—I have the honour to be, sir,

Yours very respectfully,
FRANCIS HAWKINS, M.D.,
Registrar.

To the Chairman of the Committee of Poor Law Medical Officers.

Royal College of Surgeons of England,
3rd August, 1849.

SIR,—I am desired by the Council of this College to express their unchanged desire to promote the interests of the Poor Law Medical Officers.

At the same time the Council feel considerable difficulty in complying with the wishes of the Convention, that this College should memorialize the Poor Law Board, and petition both Houses of Parliament; and this in consequence of the probability, should former precedents be adopted, of the case of the Poor Law Medical Officers being referred to this College for their opinion.

The Convention will be pleased also to bear in mind that the Council of this College in making any such representation to the Poor Law Board and to the Legislature as might effectually support the Claims of the Union Surgeons, would be expected to found their application, not on evidence furnished by the parties aggrieved, which would be considered an exparte statement, but on the actual knowledge by the Council, of facts which they, unfortunately, have not the means of ascertaining.

The Council are prepared, indeed, to view favourably the adoption of the three grand features of the plan submitted to Secretary Sir George Grey, viz. :—

1st. In permanence of appointment during the capability and good conduct of the Medical Officer.

2nd. In payment proportioned to the extent and character of his duties.

3rd. In responsibility to professional authority through a Medical Board.

The Council beg to remark, however, with respect to the third proposal, that they are not prepared to recommend a "Medical Board" until informed of the proposed constitution thereof.

And that on the whole they believe the most satisfactory arrangement to all parties would be, the appointment of a Medical Inspector in each district, under the charge of an Assistant Poor Law Commissioner.

I have the honour to be, sir,

Your most obedient servant,

EDM. BELFOUR, Secretary.

To Dr. Hodgkin, Chairman of Committee of Poor Law Medical Officers.

Apothecaries' Hall, 13th July, 1849.

SIR,—I am directed by the Master and Wardens of the Society of Apothecaries to acknowledge the receipt of your letter of the 27th ultimo, which they have only to-day had an opportunity of laying before the Committee of the Society. The Master and Wardens will thank you to favour them with a copy of the Petition to Parliament to which you refer in your letter, and with a statement of any plan which the Convention may have matured with the view of carrying out the principles laid down in that petition into practical operation.

With this information before them, the Society will be happy to take the subject into their further consideration.

Will you at the same time be good enough to state what communication has taken place between the Convention and the other Medical Corporations, as it is obviously desirable that the Medical Corporations should act in harmony on this subject.—I am, sir,

Your most obedient servant,

ROBT. B. UPTON,
Clerk to the Society.

C. F. J. Lord, Esq., Honorary Secretary, Convention of Poor Law Officers, 4, Hanover Square.

OBITUARY.

THE LATE MR. CHARLES ASTON KEY.

IN our last number we announced in a few lines the death of this distinguished surgeon. We may now add the following particulars:—It appears that the deceased did not complain of indisposition until eleven o'clock on the morning of Wednesday the 22nd inst., and that he died from the effects of a severe attack of malignant cholera at seven o'clock on the morning of the 23rd, after an illness of about twenty hours. Every effort was made to save a life so valuable to the profession, but in vain.

Mr. C. A. Key became a member of the College of Surgeons on the 5th of January, 1821. He soon afterwards assisted Sir Astley Cooper in the delivery of the Anatomical lectures at St. Thomas's Hospital. In the year 1823, he succeeded Mr. Lucas as Surgeon to Guy's Hospital, and soon acquired great repute as an operator. His dexterity as a lithotomist made him generally known to the profession.

On the separation of Guy's and St. Thomas's Hospitals as Medical Schools, Mr. Key became jointly with the late Mr. Morgan, Professor of Surgery; and this post he held until a few years since, when the Chair of Surgery was taken by Mr. Bransby Cooper.

In 1843, Mr. Key became under the Charter a Fellow of the Royal of Surgeons; and in 1845 he was elected by the Fellows, a member of Council. At the time of his death he was senior surgeon to Guy's Hospital, and surgeon in ordinary to his Royal Highness Prince Albert. Mr. Key was not a large contributor to medical literature,—a circumstance which is probably to be ascribed to the very extensive practice in which he has been for some years engaged. His writings chiefly consist of folio monographs, on Lithotomy and Hernia, and of some casual contributions to the pages of this and other journals. The deceased had a highly cultivated mind, and devoted part of his leisure time to the study of chemistry and physics. His untimely loss will be deeply regretted not only by those who knew him in private life, but by the whole profession.

DEATH OF THOMAS LITTLE, ESQ., M.D., SLIGO.

SELDOM have we had to record the death of any individual with more sincere and heartfelt regret than on the present occasion.

Dr. Little was for many years the talented, zealous, and efficient surgeon to the Sligo County Infirmary, and deservedly enjoyed the love and esteem of the nobility and gentry, as well as of the poor of that town and its vicinity, and was duly appreciated, admired, and respected for his skill, as well as for his generosity, by the profession, to which he was an ornament, and the dignity and respectability of which it was always his anxiety to promote. In him, therefore, it has sustained an *irreparable* loss, and society a bright and distinguished member. Amiable and agreeable, affable, charitable, and affectionate, the town of Sligo is by his death thrown into a state of the deepest gloom, and public confidence has ceased.

He died as he lived, and fell a sacrifice to his disinterested efforts for the alleviation of the sufferings of his fellow creatures, pending the fearful malady which has devastated our country.

We reckon with confidence upon the

governors of the Sligo County Infirmary sympathising with Dr. Little's amiable family, and appointing his son (who is so eminently fitted to take his father's place) to their infirmary, and we feel assured the appointment will afford *universal satisfaction.* —*Dublin Medical Press.*

C. RONEY, ESQ.

On the 27th inst., Cusack Roney, Esq.. F.R.C.S.I., Surgeon to Meath Hospital and to Kilmainham Gaol.

WALTER BRUCE, ESQ., M.D.

On the 18th instant, at 22, Charlotte Street, Leith, Walter Bruce, Esq., M.D.

Selections from Journals.

ANATOMY.

ON TWO NEW ARTERIES OF THE FORE-ARM —THE ARTERIA MEDIANA ANTIBRACHII, AND ARTERIA ARTICULARIS MEDIA CUBITI.

It must strike every one with surprise, observes Professor Meyer, of Zurich, to see the median nerve taking its course down the fore-arm without any corresponding artery, when the rule is that every nervous trunk is accompanied by an artery running the same course; and that a nerve in its course usually divides with the several divisions of an artery. While investigating the varieties of arteries, Professor Meyer found one regularly occurring, which took the course of the median nerve downwards towards the hand, and to which he gives the name of *arteria mediana.* It is a branch of the A. Ulnaris, or of the A. Interossea, or arises from the angle of division of both. In one case the A. Interossea Extern., and the A. Inteross. Int., and the A. Mediana, were all seen arising from the A. Ulnaris.

M. Meyer attaches importance to this artery, on the one hand, from its accompanying the median nerve in its course, and on the other, from its mode of termination in the hand. In most instances this artery is not large, and until it arrives at the wrist joint, is imbedded in muscular fibres, sending off low down only small nutritive branches to the nerve. In many cases it is much larger, and sends branches to the hand and fingers. When it takes the continued course to the hand, it passes under the lower border of the M. pronator. teres, on the radial border of the median nerve, or through a slit in this on its volar side: it lies therefore at the wrist more superficially than the median nerve, and passes with the latter beneath the annular ligament: here, in a few cases, according to Krause, it is in this way separated from the continuation of the A. inteross. superfic., which he says passes over the annular ligament.

Its distribution directly or indirectly among the fingers, after entering the hand, has been noticed by Professor Meyer in thirty arms. The course and distribution of this artery was for the most part the same in both arms of the same body. The regularity of this distribution is much greater than that of the connection of the volar radial branch with the superficial ulnar, and the artery has therefore a greater claim to recognition.

The normal divisions of the median artery are these: it gives off the first and second common digital (counting from the thumb), while the superficial branch of the ulnar furnishes the third and fourth digital. These arteries either terminate unconnectedly, or the median, near the wrist, joins an anastomotic twig from the A. uln. superf. Their branches communicate between the thumb and index finger, and index finger and middle finger, with the termination of the interosseal and the greater dorsal and common digital.

The varieties of this artery which Professor Meyer has found, are:—

1. Anastomosing with the superficial branch of the ulnar, and giving off only the first digital branch, the volar.

2. Anastomosing directly with the superficial ulnar; the latter giving off the second, third, and fourth digital branches, while the first came from the radial artery.

3. Uniting with a very small radial volar branch; then this vessel passing towards the interosseal space between the thumb and fore-finger, joins the superficial radial.

4. The following is a common arrangement of the arteries of the hand which Professor Meyer has found in injected preparations, the superficial ulnar giving off the third and fourth common digital:—the median, without any junction with the ulnar, becoming the second common digital; the radial dividing itself at the wrist into three large branches, of which the middle takes the ordinary course to contribute to form the deep palmar arch; the anterior giving off a superficial palmar branch, and terminating in the first common digital; the posterior, the common dorsal of the ring and middle fingers, and ending in anastomosis with the median to be distributed between these fingers.

Arteria articularis cubiti media.

Professor Meyer has also observed in eight cases an artery going to the articulation of the radius and ulna, corresponding with posterior articular artery of the knee joint. This artery, the existence of which might be inferred from the analogy of the two joints, he has named as above. It rises as a thick-

ish trunk from the bracheal, ulnar, or interosseous; passes into the space before the radio-ulnar articulation; the returns backwards and divides at the lower border of the radial annular ligament into an anterior and posterior branch. The anterior supplies the capsular and annular ligament, the posterior passes backwards to supply the synovial membrane of the semilunar notch of the ulna. —*Henle's Zeitschrift*, vol. viii., Part 2.

*** May not the first of these two arteries be the variety thus spoken of by Dr. Quain? *Anatomy*, p. 470.

"A superficial interosseous artery sometimes exists which arises from one or two of the arteries over the elbow joint, and takes the course of the median nerve to the palm of the hand, where it terminates by inosculation with the palmar arch." We find no mention of a branch corresponding to Professor Meyer's second, in any of our anatomical works, unless it be a recurrent or muscular branch from the interosseous.

Mr. Quain (On the Arteries, folio plates) has found an artery given off at the elbow joint, and accompanying the median nerve in its course to the palm, where it inosculates with the palmar arch, in only twenty nine out of two hundred and three bodies. Out of two hundred and ninety-three bodies no artery corresponding to the articularis cubiti media has been found, except it be one of the branches commonly called muscular, which are given off by the interosseal arteries.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Fifty-third Report of the Friends' Retreat near York, 1849.

Observations on London Milk, &c. By H. Hodson Rugg, M.R.C.S. &c.

Oppenheim's Zeitschrift für die gesammte Medicin, &c. Nos. 3 and 4, March; and May, 1849.

Every Man his Own Doctor.—The Cold Water, Tepid Water, and Friction Cure; &c. By Captain R. T. Claridge.

Mémoire sur le Développement, les Causes et le Traitement du Choléra. Par Ch. Doorjak. Saint-Pétersbourg, 1848.

Journal de Chimie Médicale. No. 8. Août 1849.

Comptes Rendus. No. 5 and 6, 30 Juillet; and 6 Août, 1849.

Copy of a Letter to the Lord Chancellor from the Commissioners in Lunacy.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Aug. 25.

Births.		Deaths.		*Av. of 5 Sum.*	
Males	664	Males	1170	Males	513
Females	653	Females	1286	Females	495
	1317		2456		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	2456	1008
Specified Causes	2451	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	1712	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	52	36
3. Brain, Spinal Marrow, Nerves, and Senses	108	115
4. Heart and Bloodvessels	32	38
5. Lungs and organs of Respiration	93	81
6. Stomach, Liver, &c.	77	68
7. Diseases of the Kidneys, &c.	8	8
8. Childbirth, Diseases of Uterus, &c.	10	11
9. Rheumatism, Diseases of Bones, Joints, &c.	4	6
10. Skin	0	1
11. Old Age	48	32
12. Sudden Deaths	8	8
13. Violence, Privation, Cold, &c.	39	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	6	Convulsions	39
Measles	16	Bronchitis	37
Scarlatina	18	Pneumonia	40
Hooping-cough	29	Phthisis	123
Diarrhœa	240	Lungs	6
Cholera	1272	Teething	15
Typhus	77	Stomach	4
Dropsy	17	Liver	13
Hydrocephalus	31		
Apoplexy	18	Childbirth	6
Paralysis	19	Uterus	2

Remarks.—The total number of deaths was 1446 above the weekly summer average. Of these 1272 were caused by Cholera, at the respective ages:—Under 15, 312; 15 to 60, 749; above 60, 211.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 30·07
" " " Thermometer[a] ..... 62·9
Self-registering do.[b] ....Max. 89·8 Min. 46·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·01—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1.°3 above the mean of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

We put no faith whatever in the hypothesis of Cholera depending on a deficiency of electricity in the atmosphere. If there were any truth in it, the warm-blooded mammalia would suffer from the disease as much as the human species. For this reason we do not insert the printed extract which has been forwarded to us.

Mr. Robbs's second communication has been received, and will have early insertion.

We regret with Mr. Ewen that there has not been a sufficient number of Subscribers to justify the publication of a General Index. His proposition shall be communicated to the publishers, but we do not think it can be adopted with any hope of success.

A Surgeon, Pangbourne.—The subject referred to by our correspondent shall receive our early attention.

Lectures.

A LECTURE ON PESTILENTIAL CHOLERA, OR INDIAN TYPHUS.

Delivered, August 23rd, at the York Medical School,

By Thomas Laycock, M.D.
Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine.

Infectious and contagious nature of the disease—The forms of attack various—with syncope, diarrhœa and dysentery, and asphyxia—Action of the poison gastro-enteric—its analogy to "pernicious fever"—Attacks but once—its analogy to yellow fever, plague, and exanthematous typhus—the affinity of the poison for marsh and sewer-poison—for animal effluvia—Danger of atmospheric hypothesis—diagnosis—prognosis—treatment—of the first stage—the collapse—the reaction—the fever.

Since July 10th to yesterday (August 22d) there have been 109 deaths in York from epidemic or pestilential cholera. In October last there were a few deaths, and then the disease ceased. On June 2d, 1832, a man died of it in a court in Skeldergate (a street, as you know, parallel with and near to the river Ouse); in five days afterwards his brother was attacked, then his father in six days, then his uncle in ten days, and cousin, daughter of the last mentioned, in eleven days. I mention these dates to give you some idea of the period of incubation of this febrile poison. In some instances the period has been only two hours. The disease spread gradually into different parts of the city, and prevailed more or less until October 15th, when it ceased. There were 174 attacks and 60 deaths reported in June (I mention the number of attacks, although virtually it has no pathological value until we decide in what an attack of cholera consists); 234 attacks and 98 deaths in July; 54 attacks and 27 deaths from August to middle of October: in all, 450 attacks and 185 deaths. The late Mr. Needham published a history of the cholera as it appeared in York; he attended many cases, and his recorded opinion is, that at that time it spread by contagion.

The disease is taking a course almost precisely similar to that of 1832, and the evidences of its contagious nature are of exactly the same kind, these seem to have considerable weight with the majority of the practitioners I have conversed with, and incline them to think it belongs to the same class of diseases as the contagious or infectious epidemics. Those who have attended cases appear to be unanimous on this point.

It would be a fundamental error to suppose that the *malignant* cases of the epidemic solely manifest the effects of the choleraic poison; that such an error is very prevalent, and that it is a great obstacle to a proper knowledge of the disease, is certain. I will, however, describe the cases of poisoning by the cholera virus as they have come under our notice.

In the first place, we have all witnessed that terrible form in which the poison strikes at the very seat of life, and beats down the strength by a succession of rapidly-dealt blows. Suddenly, and for the most part about one or two o'clock in the morning, an individual feels faint and giddy, with a peculiar sensation in the epigastric and abdominal regions, described variously by patients, and perhaps differing much in individuals. In some it is a mere feeling of sinking; others have a sensation as if they were emptied of every thing; others have a peculiar nausea or sickness, and feel flatus rumbling about. This sensation is quickly followed by faintness and an urgent desire to have a motion, which is very copious and liquid. Occasionally the sphincter ani seems to lose its tone from the first, and the first motion gushes irresistibly from the patient, even as he walks: should this state of things continue, the motions pass involuntarily, but not in all cases. This evacuation is followed as a result by a greater depression of the strength, approaching to syncope: the pulse becomes feeble and quick; the face pale and haggard; the lips livid; the respiration panting and difficult. In a while the individual rallies a little, but only for a short period; for another profuse whey-like motion soon takes place, with similar results, only in a more intense degree. Thirst now becomes urgent; there is great jactitation; the respiration is more hurried; the eyes sunken; and spasms come on in the toes and fingers, and legs and thighs. Every thing taken is usually, but not always, vomited; the distress continually increases; profuse liquid stools succeed each other; the cramps become more intense, the fingers appear as if sodden with being in hot water, and assume a bluish tint; a cold sweat bedews the face; the voice becomes feeble and husky; the pulse weaker and smaller, until at last a calm comes on, and all the symptoms remit. In those cases which recover from this state of collapse reaction begins to commence; but if it be about to terminate fatally, the powers of life gradually fail, and death supervenes in from two to thirty-six hours after the attack.

So soon as reaction is fully established consecutive fever commences: this is so similar to typhus in all its leading features that I need not describe it to you. The full development of the febrile phenomena is preceded in cases that have recovered from collapse by profound slumber; if this fever terminates fatally, death occurs before the eleventh day. If it terminate in a few hours and favourably, bilious stools are observed.

There is another form of attack in which the patient receives longer warning of the presence of the choleraic poison, inasmuch as *diarrhœa* or *dysentery* precede the stage of exhaustion or collapse for a period of very variable duration, but apparently from a few hours to two days.

These phenomena constitute the disease *ordinarily* termed epidemic cholera; but they are by no means the sole phenomena, nor probably, in the majority of persons affected with the choleraic poison, is its presence so manifested. A third form of cholera occurs in this way:—after experiencing slight tormina or dysenteric symptoms (but often so very slight as not to attract immediate attention), and after feeling an almost, in some cases, inappreciable amount of uneasiness about the epigastrium, an individual is attacked with sudden faintness, approaching to syncope, accompanied with expressions and a sensation of distress quite disproportionate apparently to the real condition. In some instances the individual feels that if he be not speedily relieved from this state of faintness he will die; and, indeed, the countenance becomes peculiarly pale and ghastly. Stimulants are administered; the horizontal position is adopted, together with other appropriate means: perhaps a slight dysenteric evacuation of the bowels takes place; in some instances there is a little retching, or even vomiting: all the phenomena not occupying a longer period than an hour or two,—and then, if there be not a fatal termination, there is a return to comparative health, although a slight feverishness remains. This individual has had an attack of the choleraic poison.

Another form of action of the poison is the following:—There is a feeling of indisposition or lassitude, with loss of appetite, nausea, tendency to vomit, uneasiness in the epigastrium, peculiar sensations in the bowels, of a kind rarely if ever experienced before, and a general feverishness. Diarrhœa or dysentery accompany these symptoms, ordinarily in only a slight degree, as in the preceding form, and after continuing for two or three days the individual is restored to health, or suffers from a typhoid fever. This person has also had an attack of the choleraic poison.

The two preceding forms do not, however, always terminate so favourably, but the faintness and the dysenteric or diarrhœal symptoms become more and more aggravated, and finally death takes place: in some with or without the ordinary phenomena of typhus, in others there is merely intense diarrhœa or dysentery, and the sequelæ thereof. Death in these cases, too, results from the effects of the poison.

There is one other form of affection which is probably choleraic: namely, together with slight intestinal symptoms, profuse diaphoresis or diuresis is present. How far this class of cases may be termed choleraic cannot as yet be positively stated. Observations are wanting on these points; but analogy renders it probable that such phenomena are excited by the choleraic poison in the blood.

There are other forms of indisposition mentioned by writers as being prevalent during the prevalence of the epidemic, and as caused by the epidemic "influence." Such, for example, you will find in the Anatomie Pathologique of Cruveilhier; but the preceding are the principal and most common forms. I need not analyse these and the phenomena in general: this you will find done well in several of the works published on the disease. All I need point out at present is, that the phenomena above detailed show this general fact—namely, that the poison of cholera acts primarily on the gastro-intestinal system. Whether its action on the heart and lungs is secondary to its action on the stomach, or whether it be primary, is not so clear: but it is of no great importance practically to decide the question; for if it be only secondary, it so quickly follows the primary action as to be almost consentaneous.

It has been much to be regretted that the love of the marvellous has led so many practitioners to separate cholera from all other diseases, and to discourse of it in hyperbolical and general terms, as something inscrutable, mysterious, and beyond our comprehension; as being dependent upon strange mutations in the earth and elements, or upon a mysterious modification of the atmosphere by an intangible agent far beyond our ken,—a something of which it has been said (the words of Scripture being actually quoted), "we cannot tell whence it cometh or whither it goeth." I feel it my duty to express my dissent from such impracticable doctrines, and state my conviction that the disease resembles other epidemics in its nature and course, and is regulated by the same general laws.

Cholera is not of recent origin. Dr. Craigie states that a disease distinguished by profuse and irresistible vomiting and purging of serous, sero-albuminous or sero-sanguine fluids, and cramps of the legs and arms,

followed rapidly by small or even imperceptible pulse, shrinking of the features, depression of the eyes and temples, lividity of the surface, and all the other symptoms of spasmodic cholera, was known to the ancient Greek physicians,—as Aretæus, Alexander of Tralles, and others. Modern Italian and American writers describe a form of *tertian fever*,—a fever arising from marsh poison or malaria,—the paroxysms of which resemble an attack of cholera. Torti is the Italian author most frequently quoted by systematic writers; but Rienzi and other more recent Italian physicians describe the same under the term *Tertiana cholerica*, or *Tertiana dysenterica*. You will find them mentioned by English authors under the head of "Pernicious Ague." The intestinal evacuations are like those of cholera: there is hollow sinking of the eyes, hoarse and clanging voice, incessant hiccup, epigastric anguish, small pulse, cold sweats on the forehead, cold extremities. Such agues occur in hot sultry seasons in the south of Europe, and especially in the malarious districts of Italy.

Dr. Currie, of Philadelphia (who published in 1782), states that he has many times seen the cholera with regular periods like a tertian, and the paroxysms of tertians attended with cholera or dysentery. Dr. Wood, also of Philadelphia, in his Systematic Treatise on the Practice of Medicine, published in 1847, describes the "Pernicious Fever" of his own country at considerable length. He restricts the term to a fever caused by marsh poison, in which there is *great and sudden prostration*, or *depravation of the nervous power*. It may be either intermittent, remittent, or continued. If the patient survive three days, it almost certainly becomes paroxysmal, and ends often in an ordinary intermittent. The *first* attack is usually that of an ordinary intermittent, as well as the premonitory symptoms; when gradually or suddenly, as the case may be, the patient undergoes an alarming change. I will give you the symptoms of the disease, when fully formed, in Dr. Wood's own words, that you may see how closely (nay, exactly) similar they are to those of an attack of cholera. "There is something strikingly peculiar in the appearance of the patient. The face, hands, and feet are of a livid paleness; the features shrunk and impassive . . . . . the eyes sunk in their sockets; the skin contracted, and the fingers shrivelled up as if long soaked, like those of a washerwoman, in soap and water; the extremities, and even the trunk, chillingly cold; the surface clammy, or bathed in a profuse cold sweat. The tongue pale and cold, sometimes dry, sometimes little altered. There is almost always a feeling of epigastric oppression, with tenderness upon strong pressure, and often intense internal heat, with excessive and unquenchable thirst; but whatever he drinks is usually rejected almost as soon as swallowed. Incessant vomiting is one of the most frequent symptoms; generally the matter thrown up is either what may have been swallowed, or a muco-serous fluid, occasionally tinged with blood. The bowels are sometimes confined, but oftener the reverse, the dejections being exceedingly copious and frequent, often several in an hour. The discharges sometimes consist of a bloody serum, like the washings of flesh, sometimes of blood nearly pure."

"The state of the respiration is often highly characteristic: the breathing seems like a succession of deep sighs, and occasionally each inspiration is interrupted in its progress, and effected as by a double effort. The patient often complains that he cannot get his breath, and desires to be fanned, and longs for the external air. The pulse is small, irregular, sometimes corded, almost always very frequent. It is often quite absent from the wrist, though distinctly perceptible at the carotid. . . . . Occasionally, as in cholera, there is painful spasm of the muscles of the extremities, especially of the calves of the legs. Indeed, the analogy between many of the symptoms above described and those of epidemic cholera is very striking."

Such is Dr. Wood's description and opinion. The course and termination of the paroxysm are equally similar to those of cholera; but the symptoms are sometimes modified in a peculiar manner, and Dr. Wood observes—

"Sometimes the force of the disease appears to be directed especially to the heart, and the prominent phenomena are those of excessive prostration of the circulation. The patient is extremely weak, and becomes faint after the least exertion, with excessive feebleness of pulse, cold sweats, &c., but without nausea, vomiting, purging, or abdominal distress of any kind. In this, as in the other forms, there may be one or two remissions or intermissions; but, unless saved by remedies, the patient dies at last of pure syncope. In other cases coldness is the most prominent symptom."

I may add, that the treatment recommended for this "pernicious" form is exactly like that recommended for cholera.

It is not surprising, then, that cholera has been considered as merely an ague by several observers. Dr. Bell (I believe now of Manchester), who had seen ague in Central Asia, is one who has the most ingeniously advanced this doctrine. So far, indeed, as it is true it should be admitted, but does a *second paroxysm* of cholera usually take place? or, in other words, does the disease

attack a second time? If it do not, then we must remember there is a large class of contagious or infectious fevers which have this peculiarity, that one attack protects an individual against a second, and cholera must be considered in its relations to this class.

Now with regard to this point the evidence is not so overwhelmingly conclusive as it is with regard to variola or rubeola; but it is amply sufficient, if taken altogether, to justify us in affirming that *in general one attack of cholera* renders *an individual insusceptible of a second.* With regard to our experience in York, I can state that, after some inquiry, I do not hear of a second attack occurring. Writers in general, too, are almost all silent on this point: now, if a second attack or paroxysm were common (as in agues) I think the fact would be stated. Add to this the evidence of those whose attention has been specially directed to this question, and I think you will agree with me in thinking that this point in the pathology of cholera is established. The outbreak of epidemic cholera which occurred in the Presidency of Bengal in 1817, 1818, and 1819, is that with which modern writers commence their histories. In 1820, the Medical Board published a report upon it, containing a digest of the replies to questions transmitted to all the individuals on the list of the Medical Department, and to which 124 responded. Mr. Jameson, secretary to the Board, leaned to the doctrine of non-contagion, and consequently the evidence as to the question of a second attack may be considered as free from bias in favour of the opinion we hold as to the contagiousness of the disease. The reporter observes—

"Another curious circumstance in the economy of the disease was, that not only were persons who had undergone its attack free from its further assaults, but even individuals and bodies of men who, having come within its pestilential influence, had escaped unaffected, were nevertheless much less obnoxious to its future visits than those who had not been before exposed to its virus. . . . This was the case to a greater or less degree in every part of the provinces, in which it was generally remarked, that the epidemic on its recurrence either did not at all revisit the places formerly affected, or only in a much lighter manner than those to which it was yet a stranger. In Tirhoot particularly, in which the epidemic twice appeared at two distant periods, the truth of this observation was strikingly illustrated, since, according to the information of a very intelligent observer, not a single instance occurred of the disease revisiting the same place throughout the whole extent of the district."

But it is in the different divisions of the army, Mr. Jameson observes, that we should expect to find the existence of this law most clearly established, and he adds several well-established instances, in which regiments that had already been attacked with cholera, marching into towns infected with it, or mixing with other troops suffering from it, without having any cases. We quote one of these instances, and add, *ex uno disce omnes*:—

"During the march to Gorruckpore, the disease first broke out in Lord Hastings' camp among the followers of a gentleman who had just joined the party. . . . It next got among the servants of several gentlemen then in attendance upon the Governor-General, and to the period of its decline was confined to such persons as had not been in the centre division [which had already been attacked some time before]. This could not be explained on any difference of situation, for the party daily changed ground, and the new-comers were mixed promiscuously with those who had been previously exposed to infection. Nay, it further appears, that after attacking the first party, the disease made a long stretch, and next showed itself amongst other persons, not yet seasoned, in the opposite end of the line, leaving all between untouched," &c.

Let us now consider this point in the pathology of cholera in its analogical relations. There is a well-known class of epidemics which present striking similarities in certain leading features. There have been hot disputes, in the first place, as to their contagiousness; in the second place, as to the occurrence of a second attack, and the prophylactic efficacy of a first. There are the yellow fever, the Bulam fever, or African typhus, the plague of the Levant, the typhus of our own country. The facts are so equally balanced on both sides, and stated so positively and absolutely by both parties, that we cannot reject the statements of either, and must come to the conclusion that both are right. We can only infer, therefore, that two poisons, distinct in their nature, produce very similar effects, and that the phenomena are in fact so closely identical as not to be distinguished by unaided observation. It is now, I believe, fully established, that in our own country two kinds of typhus are met with; the one belonging to the exanthemata, and attacking an individual but once; the other caused by sewer poison, or human effluvia, and belonging to the class of non-contagious miasmatic fevers, which, under circumstances of over-crowding, or *ochlesis*, as Dr. Gregory terms it, become infectious. So also, while the yellow or remittent fever of tropical swampy districts is caused by marsh-poison at one time, and is non-contagious; at another it is caused by a specific febrific poison, which emanates from a person already affected with it, and

is therefore infectious. The same prineiple applies to the plague of the Levant, and I think the observations I have made with regard to cholera are suffieient to plaee it in the same category.

Epidemic cholera, then, is the Typhus of India, and has two distinct etiological relations: on the one hand, with marsh and sewer-poisons; on the other, with a specifie poison belonging to the same class as the poison of variola, rubeola, exanthematous typhus, &c., and giving activity to the former. When it enters the system of an individual fully exposed to the former, the disease assumes the type and character of a "pernicious fever," or in other words the poison causes that series of grave phenomena known as spasmodie cholera: when an individual affected by it is exposed in a less degree to the action of the marsh or sewer-poisons, then the disease assumes a milder form, and appears as epidemic diarrhœa or dysentery, or as typhus simply; and if these be present in a less degree still, then we have the mildest form of the affeetion, such as I previously described, each form of attack rendering the individual not liable to a second.

But you will ask me on what grounds I maintain that these milder attaeks are attaeks of true eholera? I answer, firstly, they occur eoncurrently with the graver forms. We have analogous instanees in the history of known contagious epidemics. Scarlatina frequently occurs without eruption; measles will take plaee without catarrh; smallpox with so few pustules and so little febrile disturbanee, that if the eruption occurred on the mueous membranes only, or was more minute or less visible, the individual affected would never know that he had been attacked previously; secondly, they are the symptoms of the graver disease; and thirdly, they proteet against a second attaek: the remark of Mr. Jameson, that those who escaped unaffected when exposed to its pestilential influence, were much less obnoxious to its future visits, sufficiently proves this, for those who escaped unaffected were in faet those who had no *violent* attack.

A singular illustration of these views, and not more valuable as such than as pointing to the absolute neeessity of a more philosophieal system of observations, is afforded by the history of a dysentery which prevailed epidemically at Bolton in the autumn of 1831, and recorded by Dr. Black, in the 45th vol. of the Edinburgh Medieal and Surgieal Journal. In this aeeount it is stated that in August several severe cases of eommon cholera oecurred in Bolton, with eramps, vomiting, and watery or gruelly evacuations. Shortly after dysentery showed itself, either as an initial disease, or elosely following an attack of cholera. The urine was scanty or suppressed. The practitioners of Bolton ealculated that at least one-third of the population suffered within three weeks in August, from bowel complaints of different degrees of severity. As the frequency and severity of the disease declined, a fever of a typhoid charaeter began to prevail about the beginning of October, and eontinued to spread amongst the working elasses during the two first months of winter. In the month of October the epidemie cholera made its first appearanee at Sunderland; and in the autumn of 1832, when it was very fatal at Liverpool, Manchester, and the eontiguous towns, Bolton eseaped almost with impunity, *only about* 35 *having died out of a population of* 50,000, *and these few cases were sporadic.* Here, then, is an example analogous to those recorded by Mr. Jameson. Can we avoid the inference that the eireumstances were similar? I do not know the topography of Bolton, but I venture to infer that marsh poison is not abundant there, or the month of August, 1831, was eold.

I need not point out to you in detail how these views explain the numerous and puzzling anomalies in the origin, progress, and eessation of the epidemic, and clear the way for a more philosophical method of observation, a more scientifie inquiry into its pathology, and a more rational system of prevention and eure. In virtue, then, of the close affinity of its poison with marsh and sewer-poison, eholera increases in malignancy *pari passu* with the heat and moisture whieh favours their evolution. At first the effects of the poison are seen only in epidemic diarrhœa or dysentery, and it is thought and asserted that the cholera poison is not present in the population; but a few days of high temperature, and a still, moist atmosphere, dissipate the delusion by the sudden occurrence of several well-marked eases: attention being then fixed on the graver forms alone, it is found to increase and deerease in proportion as atmospheric changes facilitate or diminish the evolution of marsh or sewer-poison, until with the commeneement of autumn the attaeks become milder, assuming the same dysenteric form that ushered in the epidemic, and terminating in fevers of a typhoid type, while the attacks became also fewer, sinee the majority of the population have already been "seasoned."

In virtue also of this peculiar affinity, it is the most obvious, because the most virulent and fatal, where marsh poison or sewer-poison is evolved in large quantities, as on the banks or deltas of rivers; on the eoast or in the large fertile alluvial plains of hot and tropical elimates, or close to eess-pools. Thus, for example, we ean understand the reason of its fatality in the houses near the stagnant Foss of this city, or in the large eities in the valley of the Mississipi, in which one in ten of the population is said to

have perished in a few weeks, or at the same rate as if 200,000 persons had died of it in London.

But on the other hand its relation to the miasmatic or typhoid class of fevers explains its prevalence wherever men or animals are crowded together in a narrow space; its transmission across oceans in the crowded emigrant ship; its fatality in the depth of winter in the heated and crowded huts of the Russian peasantry—huts hermetically sealed almost to the external atmosphere, and at a temperature of 70°; its transit across the mountain and the plain; its presence in the Indian hut or the Arab tent.

In virtue of its two-fold relations we can at once set aside the hypothesis of an epidemic constitution of the atmosphere; or, in other words, that there is a poison in the air which surrounds us, independently of human or brute effluvia, or marsh or sewer poison. I the more earnestly suggest that we should entirely discard all consideration of this hypothesis, because I am convinced it has done incalculable injury to practical medicine, and caused the deaths of myriads by leading the attention of the profession and the public from the true sources of the cholera poison. As an illustration of the fallacious inferences it has given rise to, I quote the following from one of the works before me—Dr. Woods' :—"The crew of a vessel which sailed from New York were seized with cholera when six days from port, and afterwards wrecked on a sandy island twenty miles from Charleston, far out sea-ward. Of the wreckers, attendants, and guards, who went down from the city to the island, and of the negroes residing upon the island, four only in number, many were seized with the disease, and not a few died, while no case existed in Charleston itself, except among those who had visited the infected spot. But this event may be readily explained upon the supposition that the ship had struck a *vein of the cholera atmosphere*, which involved the island without reaching the main land." I think, gentlemen, we may say so much as this, that no physician should *risk* the lives of the people on a mere "supposition,"—that in fact such conduct is not only unscientific, but contrary to sound ethics.

The anatomy of epidemic cholera is closely analogous to that of abdominal and miasmatic typhus, contagious dysentery, and English cholera; these plates of Cruveilhier amply prove this. It is in fact a gastro-enteric fever, of the contagious class.

The diagnosis is imperfect as regards the milder and less obvious forms of the disease. I think, however, we may adopt the symptoms of disordered innervation of the heart and stomach as the group of pathognomonic symptom. The epigastric phenomena, the faintness, the coldness, belong to the group.

The prognosis depends entirely upon the amount of fluid evacuated, and upon the strength of the patient, except in cases of extensive cardiac or pulmonary disease, or where you have albuminuria in an aggravated form. In these, death may be almost instantaneous, from the action of the poison on the heart and lungs. I have always advised you never to give up a fever patient until he be dead. I think with regard to cholera patients we might go further, and say, do not give them up until they are buried. Reaction takes place even in the most hopeless cases, not in cholera only, but in the kindred epidemic termed yellow fever; and instances are not infrequent in which death has only been apparent, and an accidental delay in the interment has saved an individual from being interred alive. What treatment, you will ask, is the best?

In the first place we must prevent the paroxysm. To those who are in attendance upon the sick, and who have not had an attack, I would advise the administration of quinine, especially if resident in malarious or miasmatic districts: I can speak confidently as to its value. You will find the amorphous quinine as effective as the disulphate. Quotidian intermittents have begun to prevail in York within the last few weeks: we have had several at the Dispensary lately, and you will do well to inquire minutely into the cases that have come under your notice, with reference to any periodicity in their phenomena. Such would of course be peculiarly liable to the malignant form. When the symptoms complained of are dysenteric, a dose of castor oil, with a few drops of laudanum, is, I believe, the best remedy. If syncope, or a tendency thereto, be the principal symptom, then brandy, wine, and ammonia, are advisable. If there be pain in the epigastrium, or diarrhœa, or that peculiar sensation alluded to in the abdomen, I would recommend a full dose of opium, one to three grains, combined with camphor and cayenne pepper, followed in an hour by the wet sheet, to excite diaphoresis. This treatment is not only empirically the best, but is the identical means that would be most useful in per-acute inflammation of the gastro-enteric mucous membrane. Calomel might be combined with the opium. Indeed, use the same remedies as you would administer for a severe case of English cholera.

In the stage of collapse you must stimulate as well as you can. The heart labours feebly, not only because it is half-paralysed by the poison, but because the fluidity of the blood is diminished, and is more viscid. Then the oxygen carriers—the blood-globules—no longer course freely along in the

liquor sanguinis: hence the thickness and loss of temperature. Various stimulants are recommended; those applied externally are the most available—as sinapisms to the spine, terebinthinates to the thorax, bags of hot salt, or the strongest liquor ammonia to the epigastrium. After trying various stimulants internally, I am of opinion that none in the advanced stage are of benefit. Everything taken seems to pass into a devitalized sac. Some give calomel in this stage; but it appears to me that it can only be useful as a mere application to the mucous membrane of the stomach. Others give opium. This, however, cannot be given harmlessly, as calomel may be. Opium paralyses. Why, then, give it, when you have the heart already beating too feebly, and the respiratory movements at a minimum? I believe patients recover from the stage of collapse just as well when not treated with much medicine. Cold water is instinctively desired, and, although the sufferer may vomit it continually, yet still it is soothing and grateful.

Perhaps the instinctive feelings and desires are not sufficiently considered in treating this stage. You will observe that the patient continually throws his arms above his head, so that they are in a line with the trunk. Of course he exposes them, and the nurse will perhaps return them to beneath the bed-cover. But the act is instinctive in its nature, and intended to aid the circulation through the thorax and the respiratory movements. Further, he endeavours to expose the surface of the body to the atmosphere, seeking to aerate the blood through the skin. Now after reading statements of the restoration to life of the apparently dead from cholera, simply by the power of nature after all human aid has been desisted from, one cannot help suspecting that such an exposure of the surface may have tended to keep the spark of life alive in cases of this kind. When, then, all further means appear useless, it might be well to let the surface be freely exposed to the atmosphere, the feet and hands being kept warm. I need not say how necessary it is in these cases that the air be freely admitted into the room, and as few attendants be permitted as possible. Is it advisable to endeavour by all means to stop the cramps and vomiting of the collapse stage? This seems doubtful; for these sufferings, great and urgent as they may appear, have probably the beneficial effect of keeping up the action of the heart and lungs. It is certain that their cessation constitutes a calm ominous of approaching death. It is asphyxia, in fact, that is to be dreaded; and if vomiting and cramps delay this fatal result, and give nature time to rally the powers of the organism, they are just as well let alone. Do not by active treatment disturb the patient from the comatose slumber that terminates the paroxysm,—danger to the brain is not to be feared, even although it continue several hours; prescribe suitable drinks; a pure atmosphere; quiet. These are the best means. When he wakes he will complain of thirst, and good pure water should be given him, or drinks slightly acidulated with vegetable acids. In a while he will ask for some savoury food, and excite some suprise at the oddity of his fancy, under the circumstances; but it is the *instinct for salt* which induces the craving, and you will therefore do well to salt his food, and even to give a little salt in his drinks; but forbid all fatty food. Meteorism, abdominal tenderness, vomiting, jactitation, will come on, together with other typhoid symptoms. These should not induce you to adopt the heroic course. If bilious evacuations irritate, a little castor oil with laudanum will do good. Prescribe warm opiate cataplasms to the abdomen, chicken-broth and demulcents, and small doses of colomel, with patient waiting for Nature to work out *her* cure, which she will effect in the young and vigorous in a singularly short period.

SUPERFŒTATION AND MIXED BIRTHS.

Dr. Thomas B. Taylor, of Princeton, Miss., relates (*N. O. Journ.*, Nov. 1848) the following as a case of superfœtation. Clarissa, a negress, the property of Mr. A. Knox, aged about 35 years, in May last was delivered of twins; one a mulatto and the other a negro child. She had been married to a negro man on the plantation, of delicate constitution, for many years, and had several children by him. Her menstrual discharge had occurred for several months previous to her pregnancy, at about the full of the moon. She felt herself pregnant by her customary signs, about the middle of the month; and, to confirm her suspicion, at the next period it did not appear. About three weeks from the time she first felt she had conceived, and one week after her menses had failed to appear, she had sexual intercourse *once* with a white man. She slept with her husband every night — had connection with him the night before she had intercourse with the white man, but not on the same night. At their birth, the mulatto child bore marks of being at least three wecks younger than the negro; thus sustaining the woman in her suppositions as to the time between her two conceptions. This woman is a faithful servant, and I have every reason to believe she told the truth in relating the circumstances of her case to me.—*American Journal of the Medical Sciences*, 1849.

Original Communications.

PRACTICAL OBSERVATIONS ON THE TREATMENT OF INSANITY.

By W. Smith, M.R.C.S.L.

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In the first number of the Psychological Journal, edited by Dr. Forbes Winslow, is a paper "*On the Sedative Treatment of Insanity.*" I have read that article most attentively, and without wishing to detract, in the slightest degree, from the merits of Dr. Seymour as an enlightened physician, or call in question his practical knowledge of mental pathology, I cannot help expressing my most decided opinion (founded on nearly ten years' extensive observation of insane persons) that the so called "*sedative treatment of insanity*" is *not* entitled to the high encomiums which Dr. Seymour and some other physicians have claimed for it.

During my official connexion with the Lincoln Lunatic Asylum, which extended over a space of nearly five years, I had most ample opportunities of seeing tested the merits or demerits of the sedative treatment; the more particularly so, as the late Dr. W. D. Cookson, (then) one of the acting physicians, at one period of his life advocated their employment. And here *in limine* I would remark, that the exhibition of narcotics and sedatives, and the employment of mechanical restraint, or seclusion (better named solitary confinement) for the purpose (as some imagine) of subduing maniacal excitement, or allaying irritation, are much more intimately connected than many persons superficially acquainted with the phenomena of insanity would suppose. Therefore, believing (as all my experience goes to prove) that insanity is essentially a disease of accumulated excitability, a superfluity or excess of the vis nervosa (call it by any name you please), I cannot for the life of me conceive upon what physiological or philosophical principles those persons act who prescribe narcotics and sedatives, or employ mechanical restraint or seclusion for the purpose of getting rid of this same pent-up morbid irritability. If I might be allowed the use of a homely simile, I would compare a furious and excited maniac to a modern railway engine snorting and fuming in the station-yard just prior to its being despatched with a heavy luggage train. What the safety valve and the puffs of smoke are to the coppery monster, the excessive mobility, great muscular exertion, and noisy vociferations, are to the maniac; the latter must get rid of his superfluous nervous energy by some means; and doubtless by means of grotesque actions, incessant activity of the whole muscular frame, and noisy vociferations, nature gets rid of the superfluous energy. Now, if my theory be correct, upon what principle do those persons act who (at the very onset) prescribe large doses of narcotics and sedatives, or tie down an excited and restless lunatic to a tub bedstead, or a filth-engendering restraint chair? We have had a fair stand-up fight with the restrainers, the keepers of private mad-houses, *et hoc genus omne*, but thanks to the goodness of our cause we have achieved a glorious victory: the narcotic and sedative plan is merely an old enemy under a new guise; the principle is unsound, therefore a similar defeat inevitably awaits it.

I wish not, however, whilst making these observations, to be understood as proscribing the use of narcotics and sedatives altogether; I do not assert that they are "never necessary, never justifiable, and always injurious in all cases of lunacy whatever." In puerperal mania—in mania arising from or complicated with intemperance—in cases where there may be great irritability of the nervous system, extreme watchfulness (pervigilium), feeble pulse, and great prostration of the vital powers, undoubtedly opium or some of its preparations (as under similar circumstances the question of lunacy apart) would be our sheet anchor. Let every individual case of insanity be treated on its own merits: the grand principles which guide us in the selection of suitable remedies for diseases affecting other parts of the human frame are equally applicable here. I repudiate entirely (as empirical and unphilosophical) the idea of there being any

specifics for insanity; in truth, there are none such. On being called to a case of mental derangement, our first duty should be carefully to inquire into the condition of the various important organs—the stomach, liver, uterus, and the state of the secretions; and should there appear to be no indications for medical treatment, "it is much more wise, as well as much more honest, (according to the views of that eminent authority, Sir B. Brodie), to do nothing," than to order medicaments, merely for the sake of ordering something,—a practice very like striking in the dark where you know not whether you may injure friend or foe. The doctrine here advocated will not, I am aware, suit the views of a certain learned body, nor probably the junior branches of my profession. Young practitioners, on being first launched on to the troubled waters of professional life, place wondrous faith in the efficacy of medicamenta, &c.; but ten or fifteen years' wear and tear,—I mean extensive observation of disease,—and the failure of many favourite theories, wonderfully dispel the illusion, and awaken in their minds a certain degree of scepticism as to the real value of drugs, &c. I am insensibly led to these remarks by observing that the learned Commissioners have attacked "as blemishes" in the management of the Lincoln Asylum, the very points upon which that Institution most particularly prides itself, and to which its success is attributed. However, "*de gustibus non est disputandum*; there is no disputing against hobby horses."

I am quite ready to admit that under the old *regime* of mad-houses, medical treatment was most scandalously neglected; but, judging from the "further Report of the Commissioners, 1847." and the prolix "Essays on Mental Pathology," furnished by certain youthful aspirants for fame, we appear now in danger of running foul on the other tack; and if all the narcotics, sedatives, &c., mentioned in that "Report" have been really administered, may Heaven sheathe with copper or other durable material the "*ilia dura*" lunaticorum.

As a slight specimen of the really practical and untheoretical character of these juvenile effusions, I take leave to quote (for the benefit of the inexperienced) from the aforesaid "further Report," page 462. "In melancholia and other forms of partial mania, it is probable that some portion only (and that circumscribed) of the cortical matter is diseased, and, from its undue irritability, not only distorts the impressions conveyed, &c." What does this ingenuous youth mean by *partial mania*, and what probability is there that a piece of the cortical matter keeps up a piece of mania, and that the impressions on other parts are but feebly noticed? If this be not theory devoid of common sense, I know not what to make of it. However, this same learned gentleman (by means of his most erudite theories) has contrived to smuggle himself into a snug appointment in the Lincolnshire County Lunatic Hospital, now in course of erection; doubtless, he may thank the learned Commissioners (those critical judges of lunatic management) for this appointment: the aforesaid public appointment being made without any advertisement of the matter, or allowing the members of the medical profession (many of them much more experienced than Dr. Palmer) an opportunity of contending for the palm. If the learned Commissioners are (in future) to use their influence in appointing the medical superintendents of our public asylums, I know not what may result; and I hereby enter my solemn protest against such a dangerous and mischievous precedent.

But, to return to the subject of sedatives, my esteemed friend D. Walsh, Esq., the resident surgeon of the Lincoln Asylum, in an interesting letter (developing his views of insanity) thus expresses himself:—"If a patient is in such a state that he would run his head against a wall, seclusion would do him harm. I have found it the best practice in these cases to give them as much air and exercise as possible, keeping an attendant or two with them to keep them from injury. I never mind their dancing about, or their grotesque actions, for they will sleep better after these actions than after any opiate. The attendants are so aware of this, that, when a man is restless in this asylum, or sleepless and noisy at night, they are anxious to get him out (as they say) to let him run it off. I had one case secluded by Dr. Nicholson, under the pretence of putting him under medical treatment. He

gave him in less than twenty-four hours above two ounces of Battley's sedative solution, without any other effect than increased excitement, till at length the case became what is called dancing mania; he began dancing and knocking his fists or his legs against the wall (I was asked a few days before by a German physician, "where would my non-restraint be in a case of dancing mania?" You shall see). I ordered this man to be taken into an open gallery, and the violin to be played to him, and let him dance till he was tired. I then told him he had not had dancing enough, he had better have a race. I then took him into the grounds, and raced with him: he then had his supper, and went to bed; he slept through the whole night—the first sleep he had had during a fortnight; he had no mania the next morning, and got well from that day; has been discharged as recovered, and is now succeeding very well in his business. I think this case remarkable, as showing the evils of seclusion in cases of mania, and from the benefits I have seen derived in this and similar cases by means of exercise, I feel convinced that the propensity for muscular exercise should be encouraged, as one of the means established by nature for a recovery; more particularly as I had a female in the house at the same time who was a similar case of mania. She was also put upon opium, without effect; but the doctor, tiring of this, put her upon hyoscyamus, antimony, and finished off with digitalis. She became emaciated under this treatment, (well she might!) and though now she has recovered her flesh, she has not recovered her intellect; she has been here two years, and appears an incurable case. I think she will never get well."

Dr. Charlesworth, the senior physician at Lincoln, whose whole life may almost be said to have been spent in the wards or board-room of that asylum (so deep an interest has he taken in the management), has no faith in narcotics or sedatives; and Dr. Elmhirst, who acted as physician there for (I believe) about fifteen years, does not advocate their employment. In fact, the only physicians there who ever employed them to any extent, were the late Dr. W. D. Cookson, and Dr. John Nicholson, who for a short period acted as junior physician to the asylum. In both instances the practice was singularly unsuccessful; and that it was so, can be proved by a reference to the medical journals of the establishment; in fact, Mr. Walsh, the present surgeon, (from seeing the untoward results of Dr. Nicholson's pratice), is more opposed to the "*sedative system*" than myself.

Dr. George Mann Burrows, whose vast experience in mental disorders entitles his opinions to our highest respect and attention, speaks very guardedly on the subject of narcotics. He says, page 610 of the "*Commentaries*"—"Of all the remedies prescribed for insanity, except bloodletting, there is none on which there is such a diversity of opinion as on the efficacy of narcotics. Vansalva and Morgagni condemned narcotics as injurious to the insane. Regimen, labour, and exercise, some say, are the only remedies for sleeplessness. Many proscribe narcotics altogether; others recommend them in small; and, others again, in astounding doses. Their effects are as variously described. These contradictions, I apprehend, arise chiefly from ignorance of the distinct changes which insanity assumes, or from not noting the exact state of the patient when the narcotic was given. Maniacs will generally bear large quantities of opium and other sedatives better than they will support remedies which weaken the vital powers. But opium, when the excitation is great, in a full and strong habit, aggravates: when the excitation is moderated by previous depletion, or the habit is reduced by long-continued mania, stimulants, like opium, wine, porter, &c., tranquillize, and prove soporifics.

"If, therefore, an opiate be given in the early stage of an attack of mania, before the blood-vessels and *primæ viæ* are unloaded, it may force sleep by increasing sanguineous congestion and compressing the brain; but it will certainly excite and aggravate all the symptoms. In fact, the system must be emptied and somewhat lowered, before opiates should be administered."

The late Sir W. C. Ellis, in his "Treatise on Insanity," page 172, observes—"To allay irritation is evidently the great desideratum; but, as it is well known that there are peculiar

idiosyncrasies in almost every constitution, so it will be evident that the means must be varied as we find them to exist. The same medicine which will allay it in one, will not in another; but, on the contrary, increase it. This is particularly the case with opium, which is rarely found admissible in insanity. It more frequently creates heat, and general febrile action, than procures sleep. In the first stage of the disease we ought, if possible, to avoid the use of narcotic medicines, and endeavour to procure sleep by allaying irritation, in the method above pointed out. I wish particularly to press this, because much has been said by some authors on the necessity of procuring sleep by any means, and of keeping up the strength of the constitution with hearty suppers, porter, and other stimulants."

Haslam, in his "Observations on Madness and Melancholy," pages 339-40, remarks—"Respecting opium, it may be observed, that whenever it has been exhibited during a violent paroxysm, it has hardly ever procured rest; but, on the contrary, has rendered those who have taken it much more furious. And where it has for a short time produced rest, the patient has, after its operation, awakened in a state of increased violence. Many of the tribe of narcotic poisons have been recommended for the cure of madness; but my own experience of those remedies is very limited, nor is it my intention to make further trials."

But to come to a more recent authority, Dr. Conolly, the enlightened and humane physician of the Hanwell Asylum (whose extensive experience and acute observation are equal to those of any single physician of the present age), does not appear to entertain any high opinions of the efficacy of sedatives. In the "Further Report," before named, page 444, he thus tersely describes the practice pursued at Hanwell:—"A kind and soothing reception, immediate removal of restraints, a warm bath, clean clothing, comfortable food, encouraging words, a medical treatment first directed to any manifest bodily disease which may occasion the cerebral disturbance, as of the uterus, stomach, &c., or the general loss of strength; and if such disease or debility is not manifest, attempts to allay the irritation of the brain more directly, by leeches occasionally applied to the head, gentle aperients, moderate doses of tartarized antimony, sometimes combined with sedatives; cold applications to the head, blisters behind the neck, shaving the head, and friction of the scalp with tartarized antimony, the warm bath, or in violent cases a cold shower bath efficiently applied. Tranquillity, occasional exercise in the open air; exercise and occupation in chronic cases, cleanliness, order, good diet, attention to relieve heat and thirst, particularly in the night; a careful avoidance of everything that can irritate the brain, including the avoidance of the straitwaistcoat, &c. Antimony and all sedatives are of uncertain effect, and sometimes of none; time seeming alone to effect a cure, provided proper and constant care be taken of the patient."

The subject of *narcotics and sedatives* (like every other important matter affecting the welfare or remedial treatment of the insane), has been amply (from time to time) discussed in the Annual Reports of the Lincoln Asylum. On reference to the 19th Annual Report, page 5, I find the following General Board order:—That the practice of shaving the heads of lunatics, blood-letting, the cold bath, baths above blood-heat, the process of subduing violence by the use of tartarized antimony or of narcotics, the practice of enforcing sleep by opiates, and courses of drastic medicines, are hereby interdicted, except in special cases otherwise medically requiring the same."

This same *disuse of sedatives and narcotics* formed one item amongst many others in the memorable controversy between two of Her Majesty's learned Commissioners in Lunacy, and the Board of the Lincoln Asylum. The latter parties, in their reply to the Commissioners, remark—"When a person not habituated to the treatment of lunacy sees a restless patient, he naturally follows the first popular impulse of administering a narcotic; and it is obvious that if the narcotic answered the end, such an easy remedy must long ago have been the settled recognised practice in such cases. The very contrary is the fact. It is settled that narcotics must be used with the greatest caution. And it is curious that in the case of M. B., referred to by the

Commissioners, and affording them, as they suppose, grounds for complaint, that 'no means were used for procuring sleep.' Under this alleged neglect this same patient has rapidly and perfectly recovered, and is now discharged within two months of the date of her admission."

In the 23rd Annual Report of the same Asylum, pages 4 and 5, I find as follows:—"Resolved, that the junior physician having declared his determination to disobey the rules and laws of the establishment, and so to place the house-surgeon and other officers in the position of active parties to a disobedience of the rules and orders of the House, it has become necessary to adopt measures for sustaining the authority of the Boards.

"Resolved and ordered—

"That no preparation containing morphine or narcotine, foxglove or strychnine, nor any fermented drink, be employed by the house-surgeon, under any order of the junior physician, without a consultation with, and the approbation of, one at least of the senior physicians; but that the house-surgeon, on any emergency seeming to require their use, proceed on his own responsibility under Rule XI. Section 7."

I feel considerable delicacy in quoting the above extract, exposing (as it must necessarily do) the wretched state of disorganization and party spirit pervading the medical staff of the Lincoln Asylum. This state of things, however derogatory to the character of a public medical charity, proves most distinctly that "something is rotten in the state of Denmark:" it teaches us a useful practical lesson—viz. to place the government of our public charities in as few hands as possible; it exposes the palpable absurdity of an asylum having three honorary, unpaid, non-resident physicians, and three honorary, unpaid, and non-resident surgeons, whilst the resident medical officer (a fully qualified surgeon), who alone can know the intimate and ever varying condition of the patients, is virtually excluded from any share in the medical treatment, and degraded into the subordinate capacity of mere dispenser—that is, to compound salts and senna, &c.—and to act the part of official showman to all the illiterate (they frequently cannot write their own names in the visitors' book) strangers who may be prompted by idle curiosity to stare at the mad folk.

May the petty feuds and angry personal altercations which for more than twenty years have disgraced the medical staff and board-room of the Lincoln Asylum, and sullied its otherwise bright laurels, prove a warning beacon to similar institutions! and when the individuals who have so long exercised a most baneful and despotic control over its destinies shall have passed away, may it, Phœnix-like, rise from its former ashes, and (under a higher-principled and purer-minded race of governors) furnish a bright example to surrounding institutions!

Belper, South Derbyshire,
August, 1849.

THOUGHTS ON MEDICAL ETHICS.*

By W. B. Kesteven, M.R.C.S.E.

The formation of laws to regulate the intercourse of medical men among themselves, and to determine their duties and responsibilities as towards their patients and society, has engaged the attention of members of the profession at all times; while recently the enrolment of associations in various places for the attainment of the same object, has given it a particular and prominent interest at the present time. The example set by the practitioners of Great Britain has extended across the Atlantic. At a general medical convention lately held in Philadelphia, one of the principal subjects of debate was a code of medical ethics. In these facts is plainly expressed the urgent need of a generally acknowledged principle whereon to base the rules of medical ethics that shall properly adjust questions of professional morality, and it is doubtless the want of some such principle that permits the jealousies, bickerings, and calumnies which

* The editor allows the author to state that this paper was in his hands before the publication of Mr. Fraser's "Queries" in Nos. 1131 and 1132 of this Journal. He would also take this opportunity to observe, that the article was written nearly two years ago. It will be seen that he has availed himself of remarks on the same subject which have subsequently appeared in the British and Foreign Medico-Chirurgical Review, and in the New York Quarterly Journal of Medicine.

distress and divide the different branches and interests of the profession.

Serious reflection on these evils and their proposed remedies, exhibits in the latter a deficiency of any clearly defined principle or solid basis in those codes of medical ethics or rules of etiquette which are sought to be established. It is not without much hesitation and entire deference that the writer, in obedience to an increasing conviction of the primary and paramount importance of this subject, ventures to submit the following observations to the earnest consideration of his professional brethren, regretting that the cause of truth and morality should not have been consigned to better and abler hands; that some one whose name would have commanded that respectful attention its urgency demands should not have undertaken the task. However, in thus pleading for a basis of medical ethics on higher principles than those of mere expediency or cold conventionalities, the writer commits his remarks to the readers of this journal, begging them to dismiss from their minds the individual who addresses them, and to regard only the inherent truthfulness of the cause.

It may perhaps be deemed superfluous in a Christian nation, where Christian maxims, at least ostensibly, obtain, to observe that as the rule of action there exists but one only standard of morals,—the Christian standard, the volume of the Sacred Scriptures; or that it is by this standard alone that the intricate relationships of the medical or any other profession can be securely regulated, or laws for their guidance be permanently founded. To make only a single quotation from that volume,—all the systems of philosophy among the ancients, the combined wisdom of heathen sages, and all the learning of Egypt, Greece, and Rome, could never approach the comprehensive simplicity of one sentence in which the Divine Founder of Christianity condensed the whole duty of man to his neighbour:—"Πάντα οὖν ὅσα ἂν θελητε ἵνα ποιῶσιν ὑμῖν οἱ ἄνθρωποι, οὕτω καὶ ὑμεῖς ποιεῖτε αὐτοῖς." This, "the golden rule," embraces fully all the relationships and all the obligations of man to man; it therefore claims to be regarded as the only true and solid basis of medical ethics. It constitutes the principle which, if permitted freely to influence our motives, would put to flight the slanderous insinuations, the direct and indirect calumnies, the forging of reputations, the tampering with patients, and other malpractices which foment or originate the ill feelings and jealousies constituting so notoriously the opprobrium of the medical profession.

As the very opposite of the spirit of goodwill and mutual concession which would emanate from the controlling influences of the law of universal charity now referred to, it is but too obvious that at the root of the unworthy practices so much to be deplored there lies a monster evil poisoning the heart and infecting all the channels of intercourse between the members of one body. This bane is an intense and misdirected selfishness, which it is vain to expect to be rid of by any human systems of moral philosophy, medical ethics, rules of etiquette, or legislative enactments. It is the same that has always produced gross moral delinquencies in every calling; it is the clear and open violation of the only perfect rule of honesty and straightforward dealing.

In the Christian rule of ethics just quoted there is unquestionably an appeal to self, but how different from the false selfishness just indicated as the copious source of evils to the profession of medicine! This appeal is not of human authority; it has nothing in common with the sordid selfishness that tramples down every object opposed to the attainment of its own ends; it only avails itself of that consciousness which every man possesses of what would be due to him under certain circumstances, that he may thereby be directed how to act under similar circumstances towards others: it is designed as an incentive and as a criterion, as a stimulus and as a check. It is a principle mutually protective, and it teaches us how we may safely make our own self-love the rule of our conduct, while at the same time we most truly consult the interests of our brethren and of our patients in not sacrificing these to our own self-love.

The writer would here fortify his opinions by the words of a more powerful advocate of the same cause:—"'The heart of man is deceitful above

all things;' and while the religious professor flatters himself that he is doing his full Christian duty by a strict attention to the forms and ordinances of his church, the spirit and essence of Christianity are wanting, and he forgets its fundamental principle of conduct, the law of Divine wisdom and love, 'Do unto others as ye would that men should do unto you.' This can be the only foundation alike of medical ethics and medical etiquette." (*British and Foreign Medico-Chirurgical Review*, p. 19.)

It was a source of satisfaction to the writer to find the same high ground assumed by so influential a journal, as he had himself already committed to paper, although he refrained from publication at the time. The sanction of such an authority has encouraged him to venture to submit these observations to his professional brethren.

As the present object of the writer is chiefly to point out the essential nature of the foundation of acknowledged evils, and the principles alone upon which they can be remedied, it would be beside his purpose, and beyond his ability, to suggest rules to meet such varied exigencies as these would display if exhibited in detail. These can be met only by the arbitrary arrangement of a convention, or by the spontaneous suggestions of honourable and right-minded men, under the influence of the moral law already alluded to.

But it may nevertheless be serviceable to enumerate a few of those circumstances which evince the requirement of clearer views on the true nature of ethics, and confirm the assertion as to the odious character of the source whence they flow.

Infractions of the laws of medical ethics may be regarded as three-fold: 1. as regards the obligations and responsibilities of the medical attendant towards his patient; 2. as regards the relation of the profession towards the public; 3. as regards the intercourse of medical men among themselves. These, however, are so blended one with the other, that a breach of one class of obligations can scarcely be perpetrated without involving an infringement of one or more of another class. This will be apparent from a consideration of a few examples taken as they occur to the writer's mind, with strict reference to classification.

Some of the propositions of the American Code of Medical Ethics well express the importance of the medical obligations:—"A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he incurs in its discharge. Those obligations are the more deep and abiding, because there is none other tribunal than his own conscience to adjudge penalties for carelessness or neglect."

"Every individual, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honour, to exalt its standing, and extend the bounds of its usefulness."

"There is no profession from the members of which greater purity of character, and a higher standard of moral excellence are exacted, than the medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patient."

Violations of the sacred secresy which is necessarily imposed by the patient on the attendant, are sometimes committed by men otherwise honourable, through sheer thoughtlessness in ordinary conversation, whereby events, apparently too trivial to demand notice at the time, have been repeated to the serious detriment of character. But no palliation whatever is admissible for the intentional perfidy which panders, by the betrayal of its trust, to family disputes or personal enmities.

The danger attending a case is often magnified for the sake of exalting the skill of the attendant.

"The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to be neglected. And his counsels, or even remonstrances, will give satisfaction, not disgust, if they be conducted with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed." (*American Convention.*)

The fatal tendency of disease is often concealed from the patient through a mistaken fear of the injurious effects of an unfavourable prognosis acting through the alarmed mind

on the disease itself. The writer is of opinion, derived from experience, that the danger herein is exaggerated; that where the fatal issue is clearly inevitable, and time and the patient's mental faculties permit the announcement, it is the paramount duty of the attendant to inform the sufferer candidly and unreservedly, yet tenderly, of his real condition; that, independently of the excitement of hope or fear, death must before long result as the direct consequence of the disease. If this momentous intelligence be conveyed cautiously, affectionately, and reverently, the injurious consequences that have been apprehended will not ensue. The author has seen greater moral and physical injury accrue from this awful truth having been suffered to force itself, almost at the last moment, on the unprepared mind. The most vigorous frame, and the strongest mind, must quail and bend before such self-found conviction. In this instance it can hardly be maintained that the medical practitioner is doing as he would be done by. It is often urged that this intelligence should be communicated to the patient by another friend, or, better still, by a clergyman; but though this may be generally advisable, the medical attendant must be considered the fittest person in most cases: the Gospel scheme, be it remembered, is independent of churchmanship, and the Saviour was also the physician.

On this topic the writer would again call to the aid of his views the words of the British and Foreign Med.-Chir. Review:—"It is reasonable and a duty to warn the patient of his approaching end, or of his danger, and to hint that an attention to the duties of religion is incumbent upon him, and a good thing. (Not *only* then, the writer would add.) This may be so done that the chance of recovery, slight though it may be, shall not be entirely destroyed, and that the life which the practitioner has entrusted to him to save be not extinguished. . . . . But still he must remember that the care of the body is his chief concern,—the care of the soul is the duty of another; with him he may co-operate, but his place should not be usurped." "A high spirituality is by no means inconsistent with professional eminence; but a minute and slavish adherence to forms, or a usurpation of clerical duties, always is. It is, we think, certain that the path of duty lies to the professional man in the exercise of his profession with Godlikeness and with integrity and love." (p. 13.)

Every circumstance which tends to degrade the profession from its noble and holy office to the level of a trade or craft, is a direct injury inflicted upon society: this may be seen in the endless forms of quackery by which the ignorant or superficially educated are led away. It is not without good grounds that some share of the blame of this is laid at the door of the profession, for want of setting the example of a firm and consistent opposition against all impositions of this kind.

The practical disregard of the command, "Thou shalt do no murder," to be seen in the sanguinary and cruel experiments upon animals, by which some physiologists seek to edify themselves, involves also an infringement of the above-named law of mutual goodwill, in the violence that is thereby done to the common feelings of humanity. Science has received no dispensation which permits her thus to sport with the lives and feelings of the lower animals. We are told that not a sparrow falls without its Creator's cognizance and permission; and there would seem something like its own punishment in the utter failure of any legitimate deductions to be derived from the barbarities in question.

The perversion of benevolence and Christian charity to the promotion of unworthy ends, such as the injury of a brother practitioner, or the acceptance of onerous public appointments at insufficient remuneration, confers disgrace on the individual and on the profession at large; thereby lowering it in public estimation, and in that way contracting the sphere of its utility.

Envy repining at the success of another leads men to think themselves entitled to engross practice to themselves, forgetting that there is a limit to their physical capabilities.

According to the system of remuneration adopted by some general practitioners, the patient or his illness is treated only as the occasion for the sale of a certain quantity of drugs; the medicines, which should be regarded as having some relation to the disease to be cured, are by this means looked

upon simply as the representatives of a certain pecuniary charge, whereby the real utility of the remedial agents employed is obscured, and the dignity of a profession lowered to something below the respectability of a trade, wherein a customer is supposed to know what he asks for, and pays for it in proportion to the value he attaches to the commodity he purchases. Whereas in the former case he is supposed to apply for medical skill and care, and to be willing to remunerate it in proportion to the value attached thereto.*

The adoption of a hybrid practice, compounded of homœopathy and allopathy, at the option of, or in order to meet the prejudices and fancies of patients, is at once a breach of medical ethics and a denial of common sense, if not of common honesty, in the perpetration thereof. Among *systems* so diametrically opposite there can be no neutral ground: if one be right the other must be wrong. By such a line of conduct the pretensions of one or the other *system* are virtually abandoned, or common sense suggests the absence of disease; while nothing remains but a display of dishonesty on the one part, and imbecility on the other hand. In this case the interests of the patient, of the profession, and of society, are sacrificed.

The disparagement or depreciation of one grade of the profession, by a member of another. The attempt to run down those ranks which public convenience has created, and which the superior opportunities of some still render advisable, if not indispensable. The employment, for instance, of depreciatory terms by a general practitioner in reference to physicians or consulting surgeons.

The censurable condemnation of a professional brother, whether of a higher or lower grade, by looks, gestures, inuendos, &c. For example, a physician called in consultation takes occasion in the absence of the general practitioner to hint that a different treatment should have been adopted; or by indirect means, such as *friendly* visits, &c., supplants the ordinary attendant, or destroys his patient's confidence. On this topic the expression of opinion of our transatlantic brethren may be quoted:—

"A physician who is called upon to consult should observe the most honourable and scrupulous regard for the character and standing of the practitioner in attendance; his practice, if necessary, should be justified as far as it can be consistently with a conscientious regard for truth and honesty, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. He should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practised for the bare purpose of gaining applause, or ingratiating themselves into the favour of families or individuals."—(*American Code.*)

In the preceding observations it has been, as the writer has already remarked, his object merely to cite a few examples, rather than to attempt the possibly endless enumeration of all the evils which might be pointed out, and for which there is but one generally available remedy — one only perfect bond of union. He would, to strengthen his position, borrow the words of the author of the article on medical ethics, in the second volume of the British and Foreign Medico-Chirurgical Review, already quoted, and which are to the point:—"The profession seems little better than a chaos; the whole mass is upheaving; decomposition and recomposition are going on; but we can discern no great principles by which coherence and strength may be given to the discordant elements. It is quite impossible that the intelligent lay public will notice the desire for organization and legislation, so long as the impelling motives are nothing more dignified than sectional interests, grade prejudices, or interested clamours in a pecuniary sense. The first principle should be unity to carry out the moral object of the profession."—p. 29. That bond of union, the writer well adds, is "good-will towards men."

Before bringing his remarks to a close, the writer would briefly allude to some secondary causes which, over and above the want of the definite principle he has striven to lay down, he regards as influential in the production of the evils under consideration.

These are — defective preliminary

* A fee to include both has been found to be advantageous to both parties in every respect, and is certainly more equitable.

education, defective in regard to religion, and also of general information.

An early and careful inculcation of the evidences, doctrines, and precepts of Christianity, could not fail to be protective or curative of the preceding breaches of moral obligations. The want of it induces a disregard of the solemn lessons daily taught us in our converse with some of the most mysterious operations of Omnipotence, and engenders the reverse of a reverential spirit—viz. a practical atheism—in the heart of those who would shrink with instinctive horror from the profane speculations of the infidel promoters of science, falsely so called; an atheism of the heart, not of the intellect,—a Pilate-like uncertainty, which, from the loose inquiry τὶ ἔστιν ἀλήθεια? proceeds to the fool's conclusion, "There is no God."

Correct religious knowledge would, as we have before observed, lead naturally to a right appreciation of our obligations, and to the seizure of every opportunity of improving those occasions when men are most willing to attend to their eternal interests.

The statistics of education, even merely secular, show a direct proportion between its possession and outward propriety and general integrity of conduct. There is, therefore, still farther need of an extensive and not superficial acquaintance with those branches of knowledge which strengthen the reasoning powers. If these were made more important parts of a preliminary education, we should less frequently commit ourselves to hasty generalizations, ill-digested conclusions, mistaken sequences, crude novelties and their sudden abandonment; all these leading to a practical disregard of the obligation to regard our patients' lives as a most solemn trust, in the fulfilling of which is implied an observance of the law to do as we would be done by.

It may be unnecessary to add that a more profound acquaintance with classical and other literature is required, by a large proportion of its members, before the epithet *learned* can justly apply to the profession as a body. The advantages which would be gained by such higher literary attainments would be manifested in an acquaintance with the labours of predecessors, instead of the ignorance which leads to the publication as novelties of long-established facts and doctrines.

It is possible that the nature and extent of the evil assigned as the origin of professional grievances may seem exaggerated, and the adoption of the remedy proposed may seem to some Utopian; but to those who, with the writer, acknowledge the Sacred Volume as containing the perfect and holy law of social duties, these views will seem quite reasonable and practicable. That they have not been regarded as impracticable to some of the brightest lights of medical science will be familiar to many of our readers. Of these, we gladly quote the example of the one British Hippocrates, the illustrious Sydenham:—"Whoever takes up Medicine should seriously consider the following points: firstly, that he must one day render to the Supreme Judge an account of the lives of those sick men who have been intrusted to his care. Secondly, that such skill and science, as by the blessing of Almighty God he has attained, are to be specially directed towards the honour of his Maker, and the welfare of his fellow creatures; since it is a base thing for the great gifts of heaven to become the servants of avarice and ambition. Thirdly, he must remember that it is no mean or ignoble animal that he deals with. We may ascertain the worth of the human race, since for its sake God's only-begotten Son became man, and thereby ennobled the nature that He took upon him. Lastly, he must remember that he himself hath no exemption from the common lot, but that he is bound by the same laws of mortality, and liable to the same ailments and afflictions with his fellows. For these and like reasons let him strive to render aid to the distressed with the greater care, with the kindlier spirit, and with the stronger fellow feeling."*

To point out living members of our profession, eminent before the world for their scientific and literary acquirements, and for benefits conferred on society,—but however eminent in these respects, far more illustrious in their Christian characters,—would be by no means an impossible task, but it would be an invidious work: it is a topic, therefore, on which it behoves us to be

* Sydenham's Works, translated by Dr. R. G. Latham for the Sydenham Society, vol. i. p. 25.

silent; adding only that in these as in those who have preceded them, a conviction of the value of the souls above that of the bodies of their patients, with a conviction also that for their own guidance they could find nowhere but in the Bible an infallibly true basis of medical ethics—have, with the union of purity, energy, benevolence, morality, and religion, combined to form a character stamped emphatically and pre-eminently as the Christian and the gentleman. And in conclusion we add, except so far as the various sections and parties into which the medical profession is divided recognise and act upon the Christian principles of mutual good-will, there is no hope of any adjustment of the disputes of corporations, or of the bickerings and jealousies of individuals. Rules of etiquette, codes of medical ethics, medical conventions, legislative enactments, must ever be barren of results without the pervading and influential presence of that bond of union to which allusion is here made.

Is it not an unenviably paradoxical notoriety, that a profession pre-eminently benevolent and κατ' ἐξόχην eleemosynary to all beyond its own immediate sphere, should towards its own members be proverbially uncharitable and litigious? Alas! will the time never be that men shall apply to its members the eulogium so unwillingly extorted from the pagans of old, "See how these Christians love one another?" Or rather, how long shall it be that the world shall continue to say, "See how these doctors hate one another?"

CHLOROFORMIZED COLLODION.

M. Lepage has succeeded in combining one-fourth or fifth proportion of chloroform with the ether used in the preparation of collodion. The object of the combination is to allay the pain which attends the application of collodion to cut surfaces.—*Journal de Chimie Médicale*, March 1849.

*** A solution of gutta percha in chloroform, when applied to a cut surface, gives rise to as great a degree of smarting as collodion; therefore we do not anticipate that the above combination will attain the object for which it has been designed. χ

A CASE INVOLVING THE MEDICO-LEGAL QUESTION, WHETHER THE DECEASED CAME BY HIS DEATH BY OTHER THAN HIS OWN HANDS.

By William Robbs,
Grantham.

The following case, involving the question of homicide or suicide, has undergone a very long and patient inquiry before a coroner and jury, who, notwithstanding all the evidence they were capable of obtaining, came to no satisfactory decision, but returned an open verdict. In this paper it is not intended to offer any remarks on the proceedings of the inquest, but to deal with the question strictly as a medico-legal one:—On the 8th day of August, a man named William Duggan was found in a shed or out-house attached to a farm-stead, at an early hour in the morning, with his throat most frightfully cut. When asked what he was doing there, he with difficulty stated that three men last night robbed him, and afterwards cut his throat. This, he said, took place about ten o'clock. When found, his clothes were wet, his body cold; with great difficulty he could walk. During the night there had been a heavy fall of rain. There was blood on his throat and bosom. He had a handkerchief in his right hand, which was bloody and folded up. There was no blood on the back of his right hand, nor on his left hand. His waistcoat was unbuttoned; his shirt-collar was buttoned and turned down, and lay as if it had been worn so. There was blood on his shirt down the bosom, the right arm, and under his coat. He had a shoe on the right foot, but none on his left. When his clothes were examined a bloody razor was found in his pocket, with which he said his throat had been cut. His purse was in his breeches pocket—it was wet, and folded up. A knife, scissors, and some trifling things, were also in his pockets.* The poor fellow was removed under cover, and a policeman and surgeon sent for. Mr. Jeans arrived shortly after: he closed the wound in the throat, and gave such directions

* Evidence at the inquest.

as were proper: the man appearing in a dying state, about three o'clock in the afternoon, a magistrate (the vicar of Grantham), with the magistrates' clerk, attended to take his deposition, which was as follows:—"I believe I shall die from the wound in my throat; I believe I am on my death-bed. I was coming from Corby to Grantham last night; three persons came up to me near Windovers' farm-house in Spittlegate, about ten o'clock; the foot-path from Corby to Grantham goes a short distance from the house. I think the men were not Irishmen. One of them said, Holloa! what are you doing here? I was lying down about ten yards from the foot-path side. They rolled me over, and then asked me if I had got any money. I said, I have very little. They felt in my pockets, and took away all I had. One of them cut my throat with a razor. I do not know how they were dressed. I must not talk any more. I have told all I know. I was not in liquor. The money they took was sixteen shillings. I picked up the razor. I have it."

(Signed) W. DUGGAN.

The writer saw the poor fellow just as he had finished making his deposition; he was in a very exhausted state; the stitches in the throat had become loosened. The wound was closed afresh, when he could speak very distinctly; he was then told he was in a dying state, and could not live long. He repeated to the magistrate and his clerk that what he had said was true—that he knew nothing more. He died about three hours after. On the following day Messrs. Jeans and Robbs made a post-mortem examination. The posterior part of the body and head were free from bruises; there was very considerable ecchymosis. Scars were observed on the left side of the face and forehead. These did not present the appearance of having been very recently inflicted. Slight scratches, quite fresh, were on the forehead, chin, and lips. There was no blood on or under the nails of either hand. On the left side of the neck, under the left ear, were three slight scratches, as if produced by ineffectual attempts at cutting. Under the angle of the left jaw was a skin-incision, terminating at one extremity in a scratch, and at the other in the deep transverse wound. There was a superficial wound round the throat, extending within a short distance of the lobe of the right ear. This incision divided the skin, cellular membrane, and some of the superficial muscles. The end of this cut was deeper than its commencement. The deep transverse wound was above the os hyoides, and divided all the muscles in the superior hyoideal region, the lingual artery and nerve. This cut extended through the base of the tongue, wounding the root of the epiglottis, which produced an opening in the fauces nearly an inch and a half in diameter. It terminated in a jagged cut at the edge of the sterno cleido-mastoideus muscle on the right side; it also had a serrated end on the left side, wounding the fibres of the opposite muscle. The wound extending under right ear, had the appearance of having been produced at the time the superficial wound under the throat was, and the deep transverse wound having been made afterwards in the same superficial incision in front. This gave the appearance of the wound under the right ear ending in the deep transverse cut. The superficial wound round the throat measured seven inches; the deep portion (viz. the transverse wound) four inches: the depth of this wound was two inches.

On the left arm, about three inches below the elbow, was an abrasion of the skin about the size of half a crown. On the right arm, a bruise, the size of a shilling, just below the elbow. A bruise was observed on the left knee, but not recent. There was a small abrasion of skin on the left ankle, and a bruise extending about three inches on its back part. The stomach contained a small quantity of a thick ropy fluid, tinged with blood. There was no appearance of the presence of poison. The lining membrane presented patches of ecchymosis, which had been caused by intemperance. The bowels were pinky, significant of the complaint he laboured under, severe diarrhœa. The internal organs were generally healthy, and the body appeared in good condition.

From the nature of the injuries, the surgeons formed the opinion that it might be possible for a man to inflict such wounds on himself, but *highly improbable*, he being at the time in a sound state of mind. (The last ac-

count of the deceased was, that he was perfectly rational previously to the act of violence, and when first seen after the event he was quite so, and collected, and remained so up to the time of his dissolution.) This was judged to be the case from the situation, depth, and direction of the deep wound. It could not have been inflicted unless the man's head had been very forcibly held back, and more so than he could do himself. It was the opinion that the man who inflicted the wounds must have been placed behind the deceased, and forcibly held his head back. Then the jagged ends of the deep transverse cut gave the idea of the razor having been sawn across the throat, and taken, not drawn out, otherwise it must have cut the fibres of the sterno-mastoid muscle on the right side. It would appear very improbable that a man could, lying on his back, produce a wound round his throat seven inches long without his hands becoming deluged with blood. From the state of the man's clothes he must have been on his back when the active hæmorrhage took place. The state of the ground would also support this opinion. The wounds at the commencement of the incisions were mere scratches, which would be hardly expected if the man inflicted them himself. At the beginning he would have the most power, and the loss of it would be to be observed at the end of the cut; but in this case the contrary was observed. After the muscles attached to the os hyoides were divided, the head would be violently drawn back by the antagonist muscles, and this would cause the direction of the last draw of the razor to be downwards. Notwithstanding the state of the wounds supported the man's account of the robbery and murder, many other circumstances tended to disprove the truth of his deposition. In the first place he had not been to Corby, or seen in the neighbourhood for some time.* Secondly, it appeared he complained of being badly off, and there was no evidence to show how he came into possession of sixteen shillings. Thirdly, he stated to the man who first found him that it was three shillings and sixpence, all he had, the highwaymen took from him. Fourthly, he stated the razor was not his, but belonged to three men, when it was afterwards stated that it was his razor, and he always travelled with one.* Fifthly, the fact of his purse being found in his pocket, and wrapped up in its usual way, together with the razor in the other pocket, were rather incongruous things with the supposed robbery and violence. Sixthly, the bruises and scratches observed on the surface of his body were of a very trifling character, and such as may be generally observed on men leading the same kind of life as deceased. And seventhly, the loose and intemperate life the deceased led, and the fact that he had been observed to loiter and skulk under the hedges, and about the place the whole afternoon of the day the alleged murder took place, would lead us to the conclusion that he inflicted the cuts on his own throat, and afterwards trumped up the story of the robbery.

It is very evident from these conflicting opinions that great difficulty presents itself, and prevents us coming to a decided opinion. In consequence of this state of things, another surgeon, Mr. S. Spranger, was requested to make an examination of the body. He stated it as his opinion that it was *scarcely possible* for the deceased to have inflicted the superficial cut round the throat, and that it was less possible (impossible) he should have made the transverse wound. Therefore the medical being irreconcilable with the circumstantial evidence, it only remained for the jury to steer a middle course. There existed no difference in the opinion of the surgeons, that the deep transverse incision, consequent great loss of blood, and exhaustion of animal spirits, caused the poor fellow's speedy dissolution; and that it was most improbable he could have inflicted it himself.

Grantham, August 23rd, 1849.

* John Duggan, the father, deposed he had never seen his son since last Wednesday week, and did not believe he had been at Corby.

ON OPIUM AND THE MECONATES, AS ANTIDOTES TO CORROSIVE SUBLIMATE.

M. ALLCHIN suggests that the antidotal properties of the above, in cases of poisoning by corrosive sublimate, are to be attributed to the formation of insoluble mercurial compounds, with the colouring matter and resin of opium, and to the sedative action of the drug on the irritation produced by the mercurial poison.—*Journal de Chimie Médicale*, March 1849. X

* This fact was not sworn to, but stated on the authority of one of his acquaintances.

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 7, 1849.

For some weeks past there have been complaints made through the public journals that the great metropolitan hospitals have refused to receive cholera patients, and that the dying applicants have been roughly sent away from the hospital gates: Guy's, St. Thomas's, St. Bartholomew's, and other Charitable Institutions, have on this supposed ground of complaint come in for a fair share of abuse at the hands of anonymous correspondents. We have reason to suspect that some of these indignant philanthropists are only guardians of the poor in disguise, who have a strong desire to prevent the present visitation from weighing heavily on the parochial funds. This is very laudable in its way; but at the same time, while these writers thus endeavour to excite by *ad captandum* statements, the public indignation against our excellent metropolitan charities, they should take care to place the facts in a true and candid light. This, as we shall presently show, they have omitted to do.

We are not surprised that non-professional persons should express their sentiments rather strongly upon what appears at first sight to be inhumane conduct on the part of our Hospital authorities; but we were certainly not prepared for these popular but mistaken complaints receiving the sanction of medical practitioners. Relying, without inquiry, upon a report of a meeting of the Commissioners of Sewers, a writer of one of these letters, who signs himself as the medical officer of a Poor Law Union, says:—

"The report further alludes to the system of exclusion adopted at Guy's Hospital. Now this is an endowed charity, rich in funds, and ample in building and land. The out-premises abutting on King Street are in themselves large enough to take in, if not the whole, at least a very large number of the sick afflicted with this dreadful malady (cholera), and yet from some very absurd notion of contagion, the suffering patients are allowed to traverse the metropolis to find the help and succour so essentially and immediately important. Had Guy's Hospital had no outbuildings, are the funds so bad as not to admit of erecting some? Had the disease been ever so contagious, I deny the right of an endowed charity to reject the needful assistance to suffering humanity.

"Put the matter home, sir: how would any one of the trustees like to be shuffled from door to door on the plea that others may be endangered by affording relief to him? All hospitals are considered, and properly so, to afford the best medical skill, the best comforts, and the amplest means for sustenance and support. What, then, must be the contrast between a Poor Law Union and a richly endowed hospital?

"I could say much more, but forbear."

We are informed that wards have been specially set aside in the outbuildings of Guy's Hospital for the reception of cholera patients; but the authorities have not considered it right to admit more than a limited number. The lives of some hundreds of in-patients afflicted with other diseases are at stake; and considering the badness of the locality, and the great danger of accumulating numerous pauper cholera patients under such circumstances, the Hospital authorities have, we contend, exercised a reasonable and sound discretion on the subject. They could not turn the institution into a pure cholera infirmary without acting contrary to the intentions of the founder; but no means have been spared to afford relief to the numerous cases of this malignant disease which have occurred in the nighbourhood of the institution.

The writer who makes this complaint affirms that, however contagious a disease may be, an endowed charity has no right to reject the needful assistance to suffering humanity. In answer to this we would observe, that these large hospitals are bound to receive patients labouring under any disease, who are destitute and in urgent need of medical or surgical assistance. They are also bound to look to their safety while within the walls of the institution. If, during the prevalence of a malignant epidemic, the wards were crowded with patients labouring under a fatal and intractable disease capable of being communicated to others, the governors of the charity would, we apprehend, lamentably fail in their duty. So far as we can ascertain, the wards of the metropolitan hospitals have been, during the summer, filled with patients whose cases have demanded urgent assistance: hence the only question between the governors and the public is, Whether the former are bound to give a preference to cholera cases and exclude all others. If so, as the attacks last week were somewhere about 3000, the metropolitan hospitals should be at once cleared of all other patients. Such a conclusion would be a practical absurdity. The governors have adopted the only reasonable plan left open to them: they have made the best use of their vacant space for the admission of a limited number of cholera patients, whose reception would not injure the other inmates or the attendants of the hospitals. They have not constructed large cholera infirmaries, because they have not the funds; and it is rather the duty of parishes than of hospital authorities to make preparations for meeting such an extensively spread calamity as that with which the metropolis is now visited. The hospitals are neither intended for such a purpose, nor are they adequate to meet such a contingency. The fresh cases in any one day (let us take the 29th August, in which there were 468) would alone suffice to fill one of these large charitable institutions. Crowd these patients together in the wards of either Guy's or St. Thomas's, the localities of which are notoriously unfavourable, and then estimate the amount of mortality which would be likely to ensue!

Instead of absurdly complaining of the want of hospital accommodation, why have not these concealed defenders of parochial abuses insisted, as in Glasgow, upon the establishment of houses of refuge? The reason is obvious,—it is because parishes would then have been put to an expense which they were desirous of quietly transferring to charitable institutions unfitted to meet the emergency. In a recent report of the Board of Health, we find the following remarks on the establishment of houses of refuge in Glasgow:—

"With reference to the houses of refuge, the returns hitherto received have not been sufficiently complete to enable a general summary to be given of the numbers that have been admitted into these asylums, and of the proportion of the individuals residing in them that have been attacked with cholera; but the following is the experience of Glasgow:—There were admitted into the two houses of refuge opened in this city, in all, 806 persons, out of whom 25 were attacked with cholera, but only seven died. It must be borne in mind that the whole of these individuals were taken from the most filthy and overcrowded houses and rooms in which cholera was actually prevailing, and that if they had been allowed to remain there they would probably have been the next victims. In the houses of refuge they breathed a comparatively pure atmosphere, and they were placed under proper regimen, and strict medical inspection; in the meantime their own houses and rooms, and, as far as practicable, the localities immediately adjoining, were thoroughly cleansed and purified. No instances are recorded

of any of these persons being attacked with cholera on their return to their own homes."

The complaints against the authorities of St. Thomas's Hospital are just as unfounded as those made against Guy's. At a recent meeting of the City of London Board of Health, Mr. Simon stated that a wrong impression had got abroad regarding St. Thomas's Hospital. The authorities appropriated two wards to confirmed cholera patients, and they never had refused admission to any when they had room, and they never would refuse accommodation while they had room. He bore willing testimony to the great readiness with which patients are admitted there; but the crowded state of the hospital, which made rejection indispensable, rendered it necessary for the City of London to provide a place of reception for patients.

With regard to St. Bartholomew's, it was stated at the same meeting that the authorities of that hospital had refused to receive a large number of cholera patients from the neighbourhood of Bethnal Green; but this was because the parochial authorities had not complied with the proper regulations of the hospital, by removing the bodies of those whose cases had terminated fatally.

Thus it will be perceived that as between the hospital authorities and parochial boards, it is not so much a question of philanthropy and humanity as of pounds, shillings, and pence. The parochial boards wish to save an increase of rates at all risks: they first raise an outcry against the governors of charities for not providing their pauper population with hospital accommodation; and secondly, although this has been provided to a safe and reasonable extent, they decline to pay even the expenses of interment, and coolly expect that these are to be defrayed out of the funds of a charity intended purely for the relief of the sick!

It is satisfactory to know that the City of London Board of Health have taken up this matter in a proper spirit. They have come to the resolution that the thousands of poor, afflicted with this malignant disease, are not to look to hospitals for shelter and treatment, but to the Boards of Guardians of their respective parishes. We advise the medical advocate of the Poor Law Unions from whose letter of complaint we have made an extract, to consider the following report drawn up by Mr. Simon, after a due consideration of the claims of the poor, and the accommodation furnished by hospitals:

"The increase of the number of cholera cases within the city of London, and the difficulty of providing sufficient hospital accommodation for their reception, are circumstances which lead me to think it necessary that the City of London Union should have an infirmary for this purpose within the limits of the city, and I likewise beg to express an opinion that, under the existing pressure of disease, no sufficient security can be given to the poor population of infected districts without the constant action of a distinct visiting staff for the treatment of premonitory symptoms, and without the establishment of houses of refuge for the removal of persons thus suffering."

Will it be believed, that notwithstanding this report, and the experience of the benefits already derived from the system in Glasgow and elsewhere, the guardians of the City of London Union have refused to act upon it, and have denied to their poor the requisite accommodation! The City Board of Health have, in consequence of this refusal, resolved to place the matter in the hands of Government, and thus remove the responsibility from themselves.

From the discussion which subse-

quently ensued at the meeting, it would appear that the Guardians are supported in their inhumane determination by one of the Inspectors of the Board of Health :—

"After some warm comments upon the merciful arrangements by which poor creatures seized with cholera are to be allowed to make the best of their way to Peckham, for hospital attendance, the committee resolved to transmit the communication from their officer of health to the City of London Board of Guardians.

"The committee concluded the business of the day by unanimously adopting the following resolution, which removes from them all responsibility upon the question :—

"'That in the judgment of this committee, hospital and other accommodation for cholera patients, whether wayfarers or residents, ought to be provided within the City of London Union ; and although the committee are prepared to carry into execution the authority vested in them by the Court of Common Council, by providing additional accommodation in case of any extraordinary emergency, this committee do not feel themselves authorized to provide the ordinary hospital accommodation requisite for the city union, especially when it appears by the reply of the secretary of the union, that Mr. Grainger, the inspector of the Board of Health, has sanctioned the omission of the City Union to make the required provision.

"'This committee feel it to be their duty to make this representation to the Commissioners of the General Board of Health, in order to prevent the possibility of any evil consequences which might result from an apparent difference of opinion, or a division of functions and authority exercised by different public bodies acting within the city in relation to the same matter.'"

It is clear that there is either a misstatement or inconsistency somewhere. There is no other conclusion to be drawn from the fact that the General Board of Health approves in its late report of the establishment of houses of refuge in Glasgow, while by one of its acting inspectors it sanctions the conduct of the Guardians of the City of London Union in refusing to establish such houses in the heart of the metropolis, although the necessity for their establishment is clearly demonstrated by the large number of cases which are daily occurring, and the utter want of accommodation.

These statements are, we think, sufficient to show that the authorities of our metropolitan hospitals have been most unjustly censured for the alleged non-reception of cholera patients. The blame lies with the parochial authorities for not making an immediate provision against an extraordinary visitation. They have deliberately cheated their medical officers, by compelling them to give, without extra-remuneration, the whole of their professional time to pauper cholera patients; they have abused the governors of our excellent charitable institutions for not taking upon themselves the charge and responsibility of admitting into them, when already crowded, the hundreds of their poor afflicted with the disease ; and with respect to those who have been admitted, and died within the walls of their institutions, they have refused to adopt the usual practice of interring the dead.

Using the language of their medical defender, who should have known better than to have joined in this senseless newspaper outcry, we will say—Put the matter home. How would any one of these Guardians of the City of London Union like to be shuffled from parish to parish, and ultimately compelled to make the best of his way to Peckham, for hospital attendance, on the plea that the Governors of already overfilled hospitals, and not the parochial authorities, are bound to provide accommodation? It would be satisfactory to us to hear that some guardians, as well as their defenders, had

as a matter of retribution undergone the harsh discipline which they are so ready to prescribe for others.

A CORRESPONDENT has applied to us for our opinion, in reference to the opening of the medical schools, whether it would be safe for students to reside within the walls of or near to hospitals where large numbers of cholera patients are collected. In answer to the inquiry, we may merely refer to the preceding article, from which it will be seen, that the authorities of our metropolitan institutions have wisely adopted every precaution to prevent the diffusion of the disease among the inmates or residents. The number of cholera patients admitted is limited; and there are special wards for their reception. The risk, therefore, incurred by a residence in the vicinity, will be no greater than that to which all who reside in an infected town or city are necessarily exposed. We entertain no doubt about the occasional communicability of cholera from the sick to the healthy, nor does the General Board of Health, although it endeavours most illogically to make out that overcrowding and want of ventilation are the sole causes of the spread of the disease; as if such accidental circumstances could possibly transfer to the healthy a disease which had not in it some contagious principle of propagation.

We may state, however, our firm belief that no danger need be anticipated to the health of students under the circumstances referred to by our correspondent. They have only to take care that they fix their abodes in healthy quarters; and a little inquiry will enable them to make a proper selection.

WE regret that it is not in our power to state that there is any sign of the abatement of cholera in the metropolis. The malignant pestilence continues its course, attacking individuals of all ages, but producing the greatest mortality among those who are in the prime of life. It cannot be said, however, that the progress of the disease is altogether unchecked: there is every reason to believe, from the energetic measures now adopted in the most afflicted quarters of this city, that numerous cases of diarrhœa which would pass into cholera are relieved by timely treatment. We believe that but for these measures, we should have to record a much greater number of deaths. As it is, the mortality from cholera for the week ending Saturday, Sept. 1st, surpasses that of all other weeks. In the previous week the deaths from this disease were 1272; in the week ending Saturday last they were 1663.

Under 15 yrs.	Between 15 and 60.	Above 60.
425	974	264

Thus it will be perceived there has been during the week an increase of 391 deaths; and the deaths from cholera are one-third greater than those from all other diseases taken together. The average daily mortality in the metropolis during the last week was 238, and the returns since issued indicate an equally high average for the current week. We subjoin our usual summary for London and Great Britain. Our readers will remark that the fresh cases or "attacks" are omitted, since they lead to incorrect results. All *deaths* are registered, whether occurring in private or public practice, but there are no means of obtaining correct returns of those numerous cases which daily occur in *private* practice.

August 30.

Deaths from cholera.		
In London and vicinity . .	238	
In England and Wales . .	232	
In Scotland	12	
		408

August 31.

In London and vicinity . .	229	
In England and Wales . .	150	
In Scotland	17	
		396

September 1.

In London and vicinity . .	230	
In England and Wales . .	168	
In Scotland	18	
		416

September 2 *and* 3.

In London and vicinity . .	324	
In England and Wales . .	417	
In Scotland	33	
		774

September 4.

In London and vicinity . .	262	
In England and Wales . .	265	
In Scotland	13	
		540

September 5.

In London and vicinity . .	232	
In England and Wales . .	429	
In Scotland	29	
		690
Total deaths from cholera in Great Britain from August 30th to September 5th.		3298

Of the 3298 deaths which have occurred since the issue of our last number, 1515 have been registered in the metropolis alone!

Reviews.

1. *The Misapplication of Anæsthesia in Childbirth: exemplified by facts.* By G. T. Gream, One of the Medical Officers of the Queen Charlotte's Lying-in Hospital, &c. Pamphlet, 8vo. pp. 72. London: Churchill. 1849.
2. *Anæsthesia; or, the Employment of Chloroform and Ether in Surgery, Midwifery, &c.* By J. Y. Simpson, M.D. F.R.S.E. &c. &c. 8vo. pp. 248. Philadelphia: Lindsay and Blakiston. 1849.
3. *Effects of Chloroform and of Strong Chloric Ether as Narcotic Agents.* By John C. Warren, M.D. Pamplet. Boston: Ticknor and Co. 1849.
4. *Objections to the Indiscriminate Administration of Anæsthetic Agents in Midwifery.* By W. F. Montgomery, A.M. M.D. M.R I.A. Professor of Midwifery to the King and Queen's College of Physicians in Ireland. Pamphlet, 8vo. pp. 20. Dublin: Hodges and Smith. 1849.

1. There can be little doubt that the note of warning against the indiscriminate employment of chloroform in midwifery, sounded by Mr. Gream, Dr. Merriman, and others last year, and in our own pages from time to time, has been followed by the best results. The éclat which ushered in the announcement of Dr. Simpson's experiments, induced many, if not all, obstetric practitioners to test, by their own personal observation, the powers of the wonderously "innocuous distilment," which should deprive "woman's hour" of its dangers and its pains. The trial has been made—the claims of chloroform and ether, as employed in midwifery, have been tested: the result has been that the little advantage gained by the many, and the great detriment sustained by the few, fully confirms the statements made by Mr. Gream and others, as to the dangers attending the use of these agents, at the same time justifying and strengthening the voice of alarm, so that it is now almost as rare an occurrence to meet with an obstetric practitioner in London who would venture to chloroformize a woman in labour, as it was common, a few months ago, to meet with those

who were daily making trial of this new charm for the relief of suffering. After the perusal of Mr. Gream's pamphlet now before us, we feel that they in whose hands the experiment has not resulted in sincere but unavailing regrets have much cause for thankfulness.

The profession has been edified by certain physico-theological lucubrations, which, evading the main question of the safety of the practice, have advanced a series of most illogical non-sequiturs as a justification of a measure of doubtful expediency.

Much reason exists for the supposition that many untoward results have not been so prominently announced as the great importance of the issue demanded. The harmlessness of the agent has, we fear, been exaggerated and misrepresented. The public have therefore been, so far, imposed upon as to the real merits of the question, and at the same time they have been appealed to as judges of the new practice.

The facts which Mr. Gream has collected amply substantiate the charge of the misapplication of anæsthesia in childbirth. He would be rash indeed who, after its perusal, should continue the indiscriminate use of chloroform in labour. Mr. Gream examines seriatim, by the light of recorded facts, the positions of the Edinburgh Obstetrical Society, and disproves each: he shows that etherization is not sleep, but a state of intoxication; that the degree to which it is required to be produced in order to cause complete insensibility to pain, is that state of narcotization which is incompatible with uterine action; that this fact accounts for the greater proportion of instrumental deliveries under its influence; that the injurious effects of the vapour extend to the child; that the minor degrees of etherization are attended with lascivious dreams, convulsions, &c.; and concludes by quoting as evidence of its danger under any circumstances, some of the fatal occurrences which have resulted from its employment in surgery; though the author justly points out the difference, that in surgical cases we may save life by saving pain, whereas in labour the effects of the pain are not so serious as are the consequences of the state of insensibility induced, and therefore its employment in the former alone is justifiable.

We quote the author's conclusions as conveying the substance of his facts and arguments:—

"1st. That the inhalation of ether or chloroform cannot procure an immunity from the pains of labour, because no degree short of the fourth degree of narcotization can have this effect, and narcotism carried to this extent paralyses the uterine action.

"2d. That, as etherization in midwifery has no beneficial effect, but simply allays pain, even if this could be accomplished without interfering with the uterine action, it would not be justifiable to employ it, for pain (in good midwifery practice) does not endanger life, and it would be improper to employ so dangerous an agent solely to allay pain.

"3d. That if patients escape the immediate danger of etherization during labour, they all become more or less disposed than they otherwise would be to subsequent puerperal disease.

"4th. That etherization is likely to be very injurious to the child.

"In coming to these conclusions I do not intend to condemn the practice of those who, in the operation of turning the fœtus in utero when the liquor amnii has escaped, have occasionally employed it; if rupture of the uterus was apprehended, perchance etherization might have been beneficial. I have never met with any such cases requiring it; for in all instances, however difficult, by time and perseverance, I have been able to accomplish turning, not only without the employment of relaxing agents, but with perfect safety to the mother, and with only one exception, or two (in first deliveries), to the child. In no other instance do I think there is a shadow of an excuse for employing anæsthesia, either in natural or complicated labour." (p. 71.)

With this extract we commend the pamphlet to the careful study of those who are still disposed to employ anæsthetics in midwifery.

2. The volume bearing Dr. Simpson's name on its title-page is simply an American reprint of the various essays and papers, &c., on the employment of anæsthetic agents, published by him in the British journals up to February last. As these have already received consideration in our pages, and must be familiar to our readers, we do not propose to dwell further upon them on the present occasion.

3. The substance of Dr. Warren's essay on Chloroform and strong Chloric Ether, is to be found as a contribution to our journal, at pages 679,

712, and 755, of our last volume. It has been separately published in the form of a neat pamphlet, at Boston, U.S. In this a table is added, comprising the time of inhalation, the quantity inhaled, the posture, the interval preceding death, and the morbid appearances in ten well-known fatal cases of inhalation of chloroform.

With regard to the substitution of strong chloric ether for chloroform, facts are yet wanting to demonstrate its real value. For the present we are disposed to adopt Dr. Snow's opinion of chloric ether; which is, that, being but a mixture of chloroform and alcohol, it is as uncertain in its operation as the undiluted chloroform. Our readers will find Dr. Snow's investigations on the properties of chloric ether at page 983 of our last volume. We do not anticipate that it will prove so safe in operation as Dr. Warren supposes, or that it will find greater favour with obstetricians, the majority of whom are now convinced that the cases which call for the exhibition of any form of anæsthetic are very few.

4. The opinions of a practitioner of Dr. Montgomery's eminence should command attention on whatever obstetrical subject expressed, but they still more urgently call for consideration in connection with a subject, the right determination of which involves a question of life or death, viz. the employment of anæsthetic agents in the practice of midwifery.

Dr. Montgomery states, that "in several instances the administration of chloroform has been followed by symptoms of a convulsive character, and in some by actual convulsions:" we can ourselves corroborate the truth of this assertion.

We have considered the argument deduced from the use of chloroform in surgical operations in our extracts from Mr. Gream's pamphlet. Dr. Montgomery pursues this part of the subject still further, and rests his conclusions upon the fact of the positive danger attending its use in midwifery as compared with its safety in surgery. We have ourselves had considerable experience of the effects of chloroform in midwifery (and we may say also of its disappointments), and are disposed to admit, that if we could in every case ensure its suspension of pain alone, without that of uterine action, or its uncontrolled induction of a dangerous degree of narcotism, its employment would in some cases only be justified, but with the known uncertainty of its effects we no longer see any justification for its use. We feel bound to state that we have not unfrequently had to encounter an insurmountable objection on the patient's part to be thrown into a state of utter unconsciousness at the very moment of most intense maternal feeling, the instant when all pain is forgotten "for joy that a man is born into the world."

Dr. Montgomery asserts that the suspension of uterine action has been of very "frequent occurrence" within his experience, and that its anæsthetic effects can scarcely be produced without a certain degree of impairment of uterine action, especially during the first stage of labour. The tendency of chloroform to induce paralysis of the uterus is doubtless one of the strongest objections to its employment during labour.

Dr. Montgomery, in reference to the disposal of religious objections to the use of anæsthetics, severely comments upon Dr. Simpson's allusion to the removal of Adam's rib, as "the first surgical operation ever performed upon man." We entirely participate in the author's censures, regarding this statement as flippant in the highest degree, and but little short of blasphemy. Truly, as Dr. Montgomery observes, "a cause which requires such assistance as this, one would suppose must be in great need of support." (p. 15.)

We are not prepared to give our assent even to the restricted employment of chloroform conveyed in the following extract:—

"Now let me observe, that while I object, and most strongly and solemnly, to the *indiscriminate* administration of chloroform in natural labour, I fully acknowledge its value and utility in general in obstetric operations, such as instrumental delivery, turning a child in utero, or the removal of a retained placenta, and also in some peculiar circumstances of natural labour, independent of any operation. Thus, I would give it in a case where the pain greatly exceeded its usual amount, and became intolerably severe; I would also use it in those cases occasionally to be met with in practice, in which a severe nervous pain is superadded to the ordinary pain of labour." (p. 18.)

In the two latter conditions the use of chloroform might probably be of service; but the former are precisely the conditions under which we should most hesitate to employ it, since in the one case we require the patient's consciousness to assure us that we do not misplace our instruments, in the second and third we still more indispensably require the co-operation of the regular uterine contractions to complete the delivery, and one of the great objections to chloroform is that it paralyses the action of the uterus. We observe, however, that the author notices also these objections to its use, but without giving them their due weight.

Dr. Montgomery justly attaches great importance to the paramount question of the *danger* attending the employment of chloroform in natural labour, and he has not omitted to state the important ends for which pain is inseparably connected with childbirth. We must, however, refer to the pamphlet itself for the full consideration of the subject. We doubt not that the observations of Dr. Montgomery will add force to those of Dr. Merriman, Mr. Gream, and others, who do not enter their protest against anæsthetic agents on light grounds, or without the warrant of experience for what they so strenuously assert.

Physiological, Anatomical, and Pathological Researches. By John Reid, M.D. 8vo. London, 1848.

This volume is the collected reprint, with additions, of the various valuable memoirs with which its distinguished author has enriched physiological and medical science. We shall give here a short resumé of one or two of the more important papers.

The relation between muscular contractility and the nervous system.

The majority of physiologists have maintained, and indeed still maintain, that the property of contractility is derived from the nervous system. An opposite doctrine was maintained by Haller and his followers; he found that the contractility of the muscles remained after the nerves were cut through, and even after their removal from the body; and from this and other considerations he concluded that contractility is independent of the nervous system, and is inherent in the muscular fibre itself. There are many points in dispute between the Hallerians and the neurologists, but the point to which Dr. Reid confines himself in this paper is the effect of the injury of a nerve upon the contractility of the muscular bundles in which it is distributed. Neurologists, maintaining the nerve-derived contractility of muscles, state that the ligature or section of a nerve induces diminished strength, size, and contractility of the paralysed muscle which it supplies. To this it is replied, that the paralysis is due to the act of volition being interrupted, and that, for a certain time, active contractions can be produced in those muscles; and the subsequent disappearance of contractility is due to the imperfect nutriment following a state of inaction.

To decide the point at issue, Dr. Reid instituted some experiments on the frog. He divided the nerves supplying the muscles of one limb, leaving those of the other limb intact: he exhausted the contractility of both limbs by galvanism, and he then ascertained that the contractility returned as quickly and strongly in one limb as in the other. He found that the contractility returned alike in both limbs as late as six days after the division. It was therefore manifest that the muscular contractility was not due to an influence transmitted along the nerves. In another experiment, it was found that the muscles of the paralysed limb contracted very feebly seven weeks after the operation. On weighing the muscles, it was found that while those of the sound limb were 327 grains, those of the paralysed limb were only 170 grains. In a third experiment, he cut across the lower spinal nerves; both lower limbs were paralysed; one of these was allowed to be quiescent, while the other was repeatedly excited by slight galvanic shocks. At the end of two months the excited limb retained its size and firmness, and contracted vigorously, while the quiescent limb was only half its former size; it still, however, retained some contractility. This experiment is of practical importance, showing the value of the application of galvanism to a paralysed limb. Dr. Reid concludes that the property of muscular contractility is

not derived from the central organs of the nervous system.

The second article, "*On the order of succession in which the vital actions are arrested in Asphyxia*," must always be regarded as one of the most important progressive steps in the development of the laws of asphyxia. It is based upon, connects and corrects the various progressive and mutually illustrative researches of Haller, Goodwyn, Coleman, Kite, Bichat, Williams, and Kay. The more resent researches into asphyxia by Mr. Erichsen, are in their turn based upon, and give ample confirmation, to those contained in the article under notice. The following is Dr. Reid's own summary :—

"We believe, then, that, in asphyxia, the order of succession in which the vital processess are arrested is as follows:—Dark blood is at first transmitted freely through the lungs, and reaches the left side of the heart, by which it is driven through all the textures of the body. As the blood becomes more venous, its circulation through the vessels of the brain deranges the sensorial functions, and rapidly suspends them, so that the individual becomes unconscious of external impressions. The functions of the *medulla oblongata* are enfeebled about the same period that the sensorial functions are arrested, but are not fairly suspended for some time longer. Immediately after the sensorial functions are suspended, and the blood has become still more venous, it is transmitted with difficulty through the capillaries of the lungs, and consequently begins to collect in the right side of the heart. A smaller quantity of blood must now necessarily reach the left side of the heart; and this diminution of the quantity of blood sent along the arteries, conjoined with its venous character, and the ultimate arrestment of the circulation, being circumstances incompatible with the manifestation of vitality in the other tissues of the body, general death is sooner or later induced." (pp. 37-38.)

The most important and extensive of Dr. Reid's researches are comprised in his elaborate "*Experimental investigation into the functions of the eighth pair of nerves*," or the glosso-pharyngeal, pneumogastric, and spinal accessory. We shall here give a summary of this investigation, referring to the work itself for the various experimental steps from which the results are drawn.

As Dr. Reid remarks, the eighth pair are undoubtedly the most interesting and important of all the nerves of the body, both in a practical and theoretical point of view. The following are the results at which he has arrived with regard to the functions of the various portions of that highly compound nerve—

The glosso-pharyngeal.—1st. This is a nerve of *common sensation*, indicated by the unequivocal expression of pain when the nerve is irritated. 2d. The irritation of this nerve excites muscular movements of the throat and lower part of the face, not by a direct motor influence, but by a *reflex action* transmitted through the central organs of the nervous system. 3d. It is a nerve of taste; but it participates in that function with the lingual branch of the fifth pair; it is apparently the principal nerve of taste, as it is the only sensiferous nerve distributed to the papillæ circumvallatæ, where the sense of taste is felt in the greatest intensity. 4th. It contains no motor fibres, with the exception perhaps of a few which are distributed entirely to the stylo-pharyngeus muscle.

Pneumogastric nerve.—Pressure upon this nerve in the neck generally causes increased respiratory efforts.

The *pharyngeal branches* are the motor nerves of the constrictors of the pharynx, the isthmus of the fauces, the stylo-pharyngeus, and the muscles of the soft palate; and its section is followed by great derangement of the function of deglutition.

The *laryngeal branches.*—The superior laryngeal nerves are the motor nerves of the crico-thyroid, the sensory nerves of the glottis and larynx, and, in part, of the pharynx; and the incident or excitor nerves by reflex action, through the nervous centres, of the motor nerves of the arytenoid cartilages (the recurrent nerves).

The inferior laryngeals are the motor nerves of the arytenoid cartilages; they also convey sensory fibres to the upper part of the trachea.

If the recurrent nerves be divided there is a tendency to closure of the vocal chords during inspiration, owing to the paralysis of those muscles which open the glottis; in the very young the occlusion of the glottis is complete.

Œsophageal branches.—These are partly motor nerves of the œsophagus, partly sensitive, and incident or excitor nerves, by reflex action, through the

nervous centre. It appears that the muscular contractions of the œsophagus in deglutition are in some animals excito-motory, and that in others they are called into action by direct excitation.

Cardiac branches.—It is not proved that these nerves affect the motions of the heart. Some interesting recent experiments with the electro galvanic current are referred to at page 280, from which it appears that when that current was passed along the vagi the movements of the heart were diminished or even arrested.

Pulmonary branches.—Effect of section of the par vagum on the physical condition of the lung.

In these experiments care was taken to admit air freely through the larynx or trachea.

If one pneumogastric only was divided no effect was produced.

In seventeen animals both were divided: in two of these the lungs were unaffected, in fifteen the vessels of the mucous membrane of the bronchiæ were much congested, in eight there was much frothy serum in the bronchiæ, in five there was pneumonia to a greater or less extent, in two there was gangrene, and in one of these there were abscesses, in four there was only congestion of the bronchial lining.

Effect of section of the par vagum upon the respiratory muscular movements:—

To decide this point numerous and careful experiments were performed.

The respiration was never immediately arrested, unless the paralysed glottis was closed during inspiration. In every case, with two well-explained exceptions, the number of the respirations fell remarkably, their frequency being generally diminished by one half; they were also performed more slowly, and in a heaving manner.

Dr. Reid traces the effects of the diminution in frequency of the respiratory movements in a very interesting manner, and so as to lead to valuable practical results in the treatment of disease. He attributes the alteration in the physical condition of the lungs in great measure to the diminution of the respirations, and suggests that a like effect is induced in disease when the respirations are less frequent than in health. For the particulars of this interesting practical inquiry we refer to the original memoir, see pp. 172-219.

Gastric branches.—Effect of division of the par vagum on digestion:—

In all the experiments vomiting was excited; digestion was at first interrupted; and if the animals lived long enough it was after a time re-established.

The functions of the *spinal accessory* nerves are then considered; but on this point, and, indeed, on all the other subjects to which this important memoir relates, we gladly refer our readers to the work under review.

The numerous remaining articles relate to various subjects in physiology, morbid anatomy, disease, forensic medicine, comparative anatomy, and natural history. Each of the twenty-eight papers in this volume, with perhaps two exceptions, contains an account of Dr. Reid's original observations and researches on the subject to which it relates. All these papers are marked by research, impartiality, sagacity, and truthfulness. We do not hesitate to assert that Dr. Reid is surpassed by no physiologist in soundness, originality, and power. We recommend this work to the frequent and close study of every medical man; he will find in it not only profound, but practical and living physiological and pathological knowledge: knowledge that will not only rise him in the scale of thinking men, but will often, also, be of practical value to him when he has to contend with some baffling and obscure case of disease.

[It is with regret we find that the excellent and indefatigable writer, of whose researches we have here given a brief notice, has been only recently cut off in the prime of life.]

On Wounds and Injuries of the Chest; being the third part of the Lectures on some of the more important points in Surgery. By G. J. Guthrie, F.R.S. Large 8vo. pp. 109. London: Renshaw, and Churchill. 1848.

The justly merited reputation of the author of the work the title of which we have given above, coextensive as it is with modern surgical science, renders it entirely superfluous on our part to do more than announce its publication to our readers. In a previous

number of our journal,* the preceding portion of Mr. Guthrie's Lectures was brought under our readers' notice.

Before proceeding to consider the immediate objects of the work, we feel it our duty to direct our readers' attention to the manly and energetic appeal against the inefficient state of our Army Medical Staff. They will here find vividly pourtrayed the national losses sustained by the ignorance of the civil authorities in high quarters; and we sincerely trust that the steps Mr. Guthrie has felt it his duty to take on this subject, will meet with the results that he and all well-wishers to his country and to humanity must desire.

In the first Lecture Mr. Guthrie enforces the truth that the practice of surgery cannot be separated from the practice of physic, and at the same time puts it on record that it is to his exertions in the Council of the College of Surgeons that are to be attributed the regulations which, since the year 1835, have compelled candidates for its diploma to devote some portion of time to the study of medicine. The obligation he has thereby conferred on the profession by this measure doubtless originated in Mr. Guthrie's personal experience of the great advantages he has derived in his surgical practice, even on the field of battle, from his thorough acquaintance with the principles and practice of medicine; for we cannot open a page of his works without perceiving that we are conversing with a physician, while receiving the experience of a surgeon of no limited resources. This is more especially true of the volume before us; the author's acquaintance with the phenomena of auscultation is complete, while the prominence which he gives to this means of diagnosis throughout the lectures, leaves it perfectly clear that no surgeon can perform his duties efficiently in cases of wounds of the chest without having first tutored his ear to recognise the pathological conditions of the thoracic viscera. We regard this as the great feature in the lectures before us, a feature to be attentively studied by all who have recourse to this source of information.

If the author's reputation were not, as we have observed, coextensive with modern surgical art and science, and beyond our praise or censure, he might safely have staked some portion thereof on this volume, since besides a familiarity with the subjects with which it deals, such as is possessed by few, it exhibits an extensive acquaintance with the literature of our profession in the different European languages, not omitting also other than mere superficial classical knowledge. The authors quoted have not been consulted at second hand, but a direct contribution is levied upon them, which has supplied Mr. Guthrie with a great amount of facts in corroboration, or in illustration, of his own views and practice. We have also herein a bibliography which must prove serviceable to future inquirers.

Our space does not permit us to make extensive quotations; we shall therefore content ourselves with transferring to our pages the author's practical conclusions on a class of cases which the death of the late Mr. Drummond has shown may occur in civil as well as in military practice:—

"In order to be explicit on points so important as those of which I have treated, I have thought it right to lay down cer ain general conclusions, subject to occasional deviations.

"1. All *incised or penetrating wounds* of the chest should be closed as quickly as possible, by a continuous suture through the skin only, and a compress supported by adhesive plasters, the patient being afterwards placed on the wounded side.

"2. If blood flows freely from a small opening, the wound should be enlarged, so as to show whether it does or does not flow from within the cavity. If it evidently proceed from a vessel external to the cavity, that vessel must be secured by torsion or by ligature.

"3. If blood flow from within the chest, in a manner likely to endanger life, the wound should be instantly closed; but as the loss of a reasonable quantity of blood in such cases, say from two to three pounds, will be beneficial rather than otherwise, this closure may be delayed until syncope takes place, or until a further loss of blood appears unadvisable.

"4. If the wound in the chest have ceased to bleed, although a quantity of blood is manifestly effused into the cavity of the pleura, the wound may be left open, although covered, for a few hours, if the effused or extravasated blood should seem likely to be evacuated from it, when aided by position; but as soon as this evacuation appears to

* N. S. vol. v. p. 684.

have been effected, or cannot be accomplished, the wound should be closed. It must be borne in mind that the extravasation which does take place is usually less than is generally supposed—a point which auscultation and percussion will hereafter in all probability disclose.

"5. If auscultation and percussion should indicate that the cavity of the pleura is full of blood, and the oppression of breathing and the distress are so great as to place the life of the patient in immediate danger, the wound, although recent, should be re-opened.

"6. As soon as the presence of even a serous fluid in the chest is ascertained to be in sufficient quantity to compress the lung against the spine, and time has been allowed for the closure of the vessel from which blood originally flowed, a counter-opening should be made in the place of election for its evacuation by the trocar and canula, which may be afterwards enlarged, unless the re-opening of the wound should be thought preferable, which will not be the case unless it should be low in the chest." (p. 71.)

We can only urge upon our readers that they should possess themselves of a volume which, from its great cheapness, is within the reach of every member of the profession. In it they will find not only professional instruction of the highest order, but short and graphic sketches of most exciting incidents of war, divested, it is true, of some of the romance of novel-writers, but from which, notwithstanding, they will learn that these facts are at least as striking, and far more interesting, than tales of fiction.

From the terms of praise in which we have spoken of this contribution to Practical Surgery, we doubt not that our readers will concur with us in our wish for an index to a book so replete with facts. It requires only this addition in order to render it faultless.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

August 30.

The Treatment of Epidemic Cholera.

An extraordinary meeting of the South London Medical Society was held, by adjournment, on Thursday evening, August 30th, at the Literary Institution, Borough Road, Southwark. Mr. J. Hilton occupied the Chair, supported by the honorary secretaries of the Society, Mr. J. Hicks and Dr. P. J. Murphy.

The Chairman stated that at the last meeting he had said cholera seemed on the decline; but he regretted that he could not make the same remark now, for he was obliged to confess that cholera was anything but subsiding. The non-professional public, he was afraid, had rather misapprehended what was intended to be conveyed at their last meeting, not from any misreport of the proceedings, but from omitting to take such expressions as that "we know nothing of cholera," and that "no treatment has been successful," with the professional limitation which was necessary; for when professional men spoke of what they knew, they signified that which they knew from deep and analytical acquaintance with the subject. Such, he apprehended, was the sense in which members had spoken. A great number of cases were perfectly under the influence of treatment, and taking the milder with the more severe cases, there were, perhaps, not more malignant cases of cholera than there were of typhus, small-pox, or scarlet fever, comparatively speaking. He thought it desirable that members should state what treatment in their experience had failed, and what succeeded; and on the subject of contagion, he should be inclined to take the opinion of the Society on the question whether it was communicable or not.

Dr. Barlow had not expected to see some crude remarks of his in the *Times*, with respect to impotence of treatment. What he intended to convey was, that during the stage of collapse all treatment was unavailing; that, as regarded external remedies, they might as well put the remedies into a hat. But he referred only to the state of extreme collapse. He had seen remarkable cases of recovery in which very little treatment had been applied during collapse. In two of the worst, mercury had been freely given before profound collapse. He had been called from that very room to see a man in that state, who was in an apartment in a temperature of nearly 140 degrees, having blankets heaped over him, and who expressed a sense of relief when the blankets were removed. The cold air, cold drinks, and moderate doses of calomel, seemed to have a most beneficial effect. Hence it would appear in what respect he had been misinterpreted on the uselessness of treatment. He had never expected that they would be able to cure cholera. They could not cure typhus, but they could often carry the patient through the disease. Where constant medical treatment was afforded, no cases, or few, had occurred in institutions,

such as Guy's Hospital, the Deaf and Dumb Asylum, the Magdalen Hospital, and the Infant Orphan Asylum, which lay in the most infected localities in London. At Maudsley's foundry five fatal cases had occurred, where the men who had not liked to leave their work for the purpose of procuring assistance, as they would have lost their wages for the afternoon, if they had left before the bell rang, clubbed among themselves, and procured medicine to prevent diarrhœa. There were from 700 to 1000 men; and the progress of the disease was effectually checked.

Mr. Greenwood stated that he had prepared an official report with respect to the state of public health in Clapham. The cholera was confined to peculiar localities. In the Wandsworth Road as many as thirty deaths occurred in seventeen or eighteen houses; and a very large mortality occurred in another but smaller district. Having traced the existence of the cases in the Wandsworth Road to imperfect drainage, bad water, and the condition of the neighbouring sewers, it was of importance to consider how far the same causes had operated in other localities. In 1832 the cholera seemed to follow the same course, crossing Battersea Fields, and passing up Acre Lane, to terminate in the same spot where it had now proved so fatal. In Park Lane, Acre Lane, there were last month, in about ten houses, no fewer than sixty cases of cholera with collapse, of which eight proved fatal. In almost every case there were premonitory symptoms of diarrhœa. In Wandsworth most of the cases occurred without any premonitory symptoms whatsoever. The first case to which he should refer was that of a young man, 21 years of age, residing in Cook's Buildings, Acre Lane. He had been to Bucklersbury, in the city, with his master. He was there seized with vomiting, cramp, and diarrhœa. He returned to Clapham. Within ten minutes after his return he was in a state of collapse. Adopting the plan of treatment used by Mr. Pugh, of Gracechureh Street, he (Mr. Greenwood) administered an emetic in the first instance, namely twenty-five grains of ipecacuanha. Under the particular mode of treatment which was so commenced, nine out of the ten patients were found to recover. He had adopted it with success. The man recovered. The case was seen by Dr. Silvester, Mr. Taylor, and himself. The next case was one which was subjected to the same mode of treatment; the man recovered in twelve hours. The third case was a fatal one; it had advanced too far; he was told of it at one, and the man died at four o'clock. There were in the same place, two other cases. The man's child was seized with the disease and died; and his wife, who was also seized, died in about eight hours. In each of the houses immediatedly adjoining, cholera broke out, and one person died in one of these houses two days ago. About twelve cases occurred in the locality where the first case of fatal cholera was observed. In other cases recovery was effected by the treatment to which he had referred, the emetic being always followed by a dose of ether, opium, and chloroform. The effect of the emetic seemed to be that the secretion became tinged with bile, and where that was the case he had found invariably that recovery followed.

Mr. Leadam then read some observations founded on his experience of the disease. Referring to the first stage of invasion, the second of collapse, and the third of reaction, he dwelt on the exceeding ease with which cholera was arrested at the outset. He had a record of 110 cases, and his experience showed him that there were only two modes of treatment—first, the treatment by calomel alone, which assumed two forms, the Indian treatment, in large doses of 15 grains and the like, being the first; though the second dose was required early, yet the interval between the subsequent doses was lengthened. In spite of the large doses, the quantity given was less than under the second mode of administering calomel in smaller doses, which he had tried assiduously. He was thoroughly convinced that opium was bad. Giving brandy he thought the exception, and giving water the rule: 75 per cent. of his cases were cases of recovery; 25 were fatal. The other mode of treatment to which he had alluded was with camphor. He had given camphor with spirits of wine in many cases of premonitory diarrhœa.

Dr. Lloyd observed that they were all agreed in thinking there was some influence in the air which produced certain kinds of complaints at particular periods. The same cause might give rise to other complaints at particular periods. It was their duty, then, to discover what were the causes which gave rise to this disease. He then described two localities which had come under his observation; the first being Silver Street, Rotherhithe. The privies entered into a drain which had once had communication with the Thames; but that had been cut off. All the privies then ran into the cesspool. There were eighty cases and thirty-eight deaths in the course of a fortnight. The water of the well from which the inhabitants derived their supplies, smelt of hydro-sulphuret of ammonia. No sooner had the communication of the sewer with the Thames been opened, the sewer cleaned out, and the people prevented from drinking the water of the well, which was filled

up, than cholera ceased. Within half a mile of the same place stood two rows of houses back to back. The privies of seven houses on the one side emptied into a sewer, which opened to the Thames at one end. In those houses there had been no fewer than twenty-five cases of cholera, and fourteen deaths. One house had a pump-well railed off, to which the other houses had no access. Only one case had occurred there. But the inhabitants of the other houses obtained their supplies of water by going to the sewer. That was the water they drank. In Charlotte Row they went to that sewer to get water. In the last nine days there had been no fewer than eight fatal cases of cholera. If anything were required to prove the effect of local causes in producing cholera, these two instances are sufficiently strong. When cholera was raging in Silver Street, it was not so in any other part of Rotherhithe. There were other cases which proved the disease to be contagious. In Gillham's Court a man, his wife, his son, and his daughter, were seized within twenty-four hours, and died. The nurse did not complain at the time; but some persons having gone into the house found her there lying dead. Near the house was a privy, which, owing to a quarrel, had not been cleaned, and which was creating a great pestilence. Six persons died in that house, but none in the next, which stood in the same position as regards the privy. If the local cause only were sufficient to account for the cases that had occurred, it ought to have produced the disease in both houses. Some of these six cases ought rather to be attributed to contagion. In another case a woman bought a bed which had belonged to a man named Haynes, who had died of cholera in Lower Rotherhithe. She and her children, living about 300 yards from his house, slept on the bed, were seized with cholera, and died. They did not know that it had been in possession of a man who had died of cholera. In their own immediate neighbourhood there was no cholera. There was but one case in the same street. The nurse who attended Haynes died. Mrs. Reid, a remarkably healthy woman, who nursed a man named Moore, was seized, and died. Two cases occurred on board the Betty, in the Surrey Canal. The captain's wife, who lived at Holloway or Hampstead, came to see her husband, and finding two men ill, waited on them; next day she was seized with cholera and died. Mrs. Snowden came to nurse Captain Bews, and left without symptoms for a place where there was no cholera. She died; her child also died. Her mother came from Bermondsey to nurse her. The mother was not infected in Rotherhithe, but went home, was seized, and died. A tinman, in Bishopsgate Street, had gone to Shoreditch to see a cousin, who had cholera. Three days after, at his own residence, he was seized with cholera, and died in twelve hours. Four hours after his wife was seized, and died in about twenty hours. His sister, who attended him, was also attacked, and died. The case occurred at the same time Mr. Key was so ill. The man had sent his clothes to a woman who lived at the further end of Bishopsgate to be washed. After she took them home she died of cholera. The conclusion to which he had arrived was that cholera, like typhus, was, in certain cases, contagious. In Guy's Hospital, with which he was connected, typhus was not so, because, by judicious distribution, that hospital had never more than three or four cases in one ward. But no one could doubt that at a fever hospital, or as in Edinburgh, where the infirmary had distinct wards for fever, the surgeons, nurses, and others, became liable to fever. If the poison of typhus could be so intensely concentrated as to make it contagious, might not cholera also be rendered intensely so? This, at least, the profession had learned from what had taken place—they had learned a good many modes of treatment which were to be avoided, and they had also learned some which had proved successful.

Dr. Crisp thought if Cullen had sought confirmation of his saying, that in medicine there were more false facts than false theories, he would have found it that evening. They were not really agreed as to what cholera was. The meeting would disagree on that point were it canvassed. Dr. Barlow said that cholera was not curable. He (Dr. Crisp) believed that it was; that at the commencement it was very manageable.

The Chairman believed that Dr. Crisp had misinterpreted Dr. Barlow's language. What Dr. Barlow said was, "you may carry through a case of typhus, but you have no power of cutting it short."

Dr. Crisp proceeded to express his concurrence with Dr. Ayre, in the opinion, that if they saw a person moribund, they ought not to despair. He had, with Mr. Taylor of Camberwell, seen a child which appeared in a hopeless state. He pursued Dr. Ayre's plan. The boy was convalescent, having taken 200 grains of calomel. Previously he had been taking large quantities of water, which they ordered to be reduced to one teaspoonful from time to time. In the case of a woman apparently moribund he tried an injection of saline fluid. He believed her life was thereby prolonged for five hours. He did not think he could call one of Dr. Lloyd's statements facts, because the cases might be explained on different grounds. The authorities at Guy's believed cholera contagious, and therefore the gates of th

hospital were closed against the admission of cases. Had the different modes of treatment been tried at the different hospitals, they would have had the best means of judging which was the most efficacious.

Dr. Gull expressed the gratification with which he had heard Mr. Leadam's paper, and suggested that a return should be made specifying particulars of the cases treated by members of the society. He differed from Dr. Crisp with respect to the conduct of the authorities at Guy's, who had acted, as he thought, wisely, having charge of 500 patients. He deprecated the heroic treatment with opium in cases of cholera. He had treated a boy on Dr. Ayre's plan. The boy took 250 grains of calomel. In a case he had examined himself, and the same result had been observed by Dr. Baillie, who had examined a great many cases, and found there was a large quantity of tenacious mucus thrown out from the coats of the stomach, and of pulpy epithelium thrown out from the small intestines, which, he thought, invested the calomel, so that little was absorbed. In spite of what had fallen from Dr. Crisp, there had been one case in Guy's: the orders of the governors being that where human life would be endangered by delay, the patients were to be admitted at once. In cases of extreme collapse they might as well put calomel into a bladder as into the human stomach. There was no circulation or absorption; and they ought rather to look to injection into the veins. The man admitted to the hospital for choleraic diarrhœa was so far well that it was proposed to discharge him; but at a later hour he was found pulseless, with the choleraic voice, and in such a state that he might be expected to become collapsed and die in a few hours. The sister brought one-third of a currant tart and some green pears, in which the man had been indulging. He had thereby contrived to change his choleraic diarrhœa from a very manageable disease to a very unmanageable one.

Dr. Lloyd had seen applied great heat and intense cold. With hot air and blankets he had seen the skin turned red, and perspiration running from it; yet the patient had died in a faint. The diarrhœa had been checked, but diaphoresis from the skin had supervened, which, abstracting the serum from the blood as much as if it had passed internally, ended in death. When seeing Mr. Aston Key, whom they all so highly esteemed, he found him collapsed. He (Dr. Lloyd) was warm. Mr. Key was very cold, and pulseless. Mr. Key took him by the hand and said, "How do you do?" Adding, "Oh, your hand is very hot; I can't bear it." This showed the feeling against the application of heat. They ought not to act against nature. The violent application of heat he thought should be avoided. Persons who spoke of seeing cholera cases had seen only cases of diarrhœa with cramps, but not of diarrhœa with serous evacuation and serous vomiting. In collapse, calomel might as well be put into a bag as introduced into the human stomach. Calomel was beneficial before collapse. He had, in three cases, seen patients treated with the wet sheet, sink, as in the case of which he had first spoken. He had seen oil administered. In a mild case the patient recovered; but further it had not been successfully applied. In collapse opium ought not to be given; but grain doses, at a previous stage, were of great service, and relieved the distressing feeling of pain and sinking. After the collapse has terminated, calomel might be given again.

Mr. Mitchell had treated 63 cases, 28 of which had proved fatal. He applied a sheet dipped in cold water, and placed over the patient half a dozen blankets. If the collapse had been of long duration, there was short reaction, and the patient frequently died; but where the collapse had been short, recovery took place. He had seen 666 cases affecting the mucous membrane of the *primæ viæ*. He had divided them into classes, and hoped on a future occasion to be able to place the result of his inquiries before the Society in a systematic form. In one case of a woman about 34 years of age, who had been suffering from serous diarrhœa, the diarrhœa yielded to opium and aromatics with chalk. Three days after he found her in a complete state of collapse. Her skin was perfectly cold, and she was pulseless. *Nil desperandum.* The remedies were applied. On returning, he found her countenance perfectly full. In another hour she became animated. There was no purging or vomiting after she was wrapt in the sheet, and she perfectly recovered. She was put under a course of calomel and opium, which was his universal plan. He believed that when reaction had set in, part of the calomel, being retained, would be absorbed into the system.

Mr. Dendy thought it their duty to set the public mind at rest with respect to the apparent discrepancy in their opinions. That discrepancy was rather in terms than in opinion. Cases had often been reported in the public journals as cases of Asiatic cholera, which were cases only of common English diarrhœa. He had had many cases of serous diarrhœa which he would not call cholera, though others would. It was important the public should know that, as there were four or five different roads to York, so there were different treatments which were really identical; those drugs which the public imagined to show a contradictory practice, having the same tendency or effect.

Dr. Lloyd was a contagionist; he was himself an anti-contagionist. The cases adduced by Dr. Lloyd were, he thought, inconclusive.

Dr. LLOYD thought the cases peculiar in this respect, that the surrounding houses had no cases.

Mr. E. subject.—Would Dr. Lloyd not grant that the malaria was floating all around? Would he grant that cholera was epidemic?

Dr. LLOYD could not admit that it was in the air.

Mr. DENDY had heard a gentleman state to-night that many of the cases he had had in the Wandsworth Road wanted premonitory diarrhœa. So in the Indian cases; and therefore a distinction might be drawn. A person near Russell Street had told him that night of a case in which there was no premonitory diarrhœa.

Mr. ROBINSON observed that cases of cholera had often occurred in which the patient was not subjected to treatment till past receiving benefit from remedies. The remedies in such cases could not, indeed, be said to have been tried. The disease did not appear yet to have been treated scientifically. This season he had seen some extraordinary cases of premonitory diarrhœa; one class of the ordinary character, another of mesenteric affection, and a third quite peculiar, the patients being seized with cramps which recurred after a few days, and almost invariably at night. He attributed these cases to a peculiar state of the atmosphere. There had been no severe winter: scarlet fever, erysipelas, and other diseases, had prevailed greatly, the human system being put in such a state as to be less capable of resisting the inroads of disease.

Dr. SEATON stated that, having seen an account of the last meeting of the Society in the *Times*, he had come from Bristol to attend on the present occasion, and who explained, in reply to a question, that he was a member of the Chartered College of Physicians, New York, recommended a mode of treatment extensively used in the West of England by the administration of an astringent and anti-spasmodic medicine, consisting of about equal portions of cayenne pepper, tormentilla, and gum myrrh.

Mr. ROBINSON stated that those remedies were not new, but had been tried extensively.

Mr. HICKS had declared himself at the last meeting a non-contagionist. He had seen between 50 and 60 cases, of which the greater number had occurred in isolated houses. Where two or three occurred in the same house, they were traceable to some such causes as bad drainage. In other cases the people were badly fed. Relatives having lost a child by the disease were in a state in which they were more likely, from grief, anxiety, and overwatching, to take the disease than the child originally. These were not exciting, but predisposing causes. He agreed with Mr. Robinson, that there was a poison in the atmosphere—a peculiar property in the air which had affected animals and vegetables, and which now affected the human body. When had scarlet fever, erysipelas, and other diseases, assumed so severe a type as within the last two years? He had seen no cases of so great severity as since last Sunday. Every one must have observed the peculiar state of the atmosphere that day. He had almost foretold that he would in consequence be called out to cases that night, and such turned out to be the fact. If it were allowed to go forth that cholera was contagious, they would prevent attention on the part of nurses and friends. As to treatment, they had gained something in a negative point of view. Opium they had found to be useless, as also brandy, which, indeed, he thought had been the means of cutting short the lives of patients. Opium for simple diarrhœa was efficacious, but it was not so with rice-water evacuations. He strongly approved of the application of gallic acid and lead.

The question was then put whether the sense of the meeting should be taken as to the contagious or non-contagious character of the cholera. A few hands were held up on either side, but the greater portion of the members abstained from so expressing their opinions on the subject.

It was agreed that the subject should be resumed at the next ordinary meeting, on the first Thursday of October; and the proceedings terminated.

Correspondence.

POISONING BY LOBELIA—THE CASE OF THOMAS WILSON. REPORTED BY DR. PEARSON AND MR. CURTIS.

[WE append to our account of the trial of Wood the following medical statement of the case of Wilson:—]

Called to attend this lad at 7 15 A.M. of the 16th of April last: found him complaining of pain in the belly, and pain in voiding urine. The history received from the friends was, that he had suffered occasionally for a considerable time from constipation, and had frequently complained of what the father described as a coldness of the belly; that, for the relief of these, he had frequently taken mountain flax, yarrow, and cayenne pepper. When first seen his pulse was quick, small, and easily compressed; tongue

covered with a white fur; belly tympanitic, but not painful when percussed: having to go into the country he was not seen again until 3 30 P.M., when, immediately on entering the room, it was evident a rapid change had taken place: his countenance was pale, ghastly, and anxious in the extreme, and bore the appearance of the system having sustained a great shock, such as might result from an accident with severe internal lesion; skin mottled; no pulse at the wrist; the action of the heart very feeble, and its sounds scarcely to be distinguished from each other; breathing extremely laboured; belly still tympanitic; the senses appeared to be dull, but he answered questions: the matters vomited before our visit had an olive colour, and were not unlike the coagulated blood deposited from beef-tea; the stools were scanty, and contained membranous shreds in large quantity.

It being now evident that there must be more than ordinary disease to account for the rapidity and character of the symptoms, after examining the parents of the lad for a considerable time, and naming various vegetable depressing poisons likely to produce such results, we learned that lobelia inflata had been administered: we prescribed, but the patient died before medicine could be administered.

Post-mortem examination made about forty hours after death.—General conformation good; of slender make, but muscular; belly green from putrefaction, enormously distended; mottled appearance of various parts of the skin, evidently depending upon gravitation of the fluids.

The peritoneal surface of the intestines completely covered with lymph in large quantity; the intestines adherent everywhere, but separable by the finger, and presenting a vascular, pinkish, and slightly granular appearance; the liver of a blackish colour; the gall-bladder moderately filled with inspissated black bile, containing numerous minute needle-shaped crystals.

The internal surface of the stomach greatly inflamed; inflammation especially recent at the cardiac orifice; also marked and recent at the pyloric orifice.

The great and small intestines more or less inflamed throughout, but very recently in the duodenum and upper part of the jejunum, in which was found a large incipient chronic ulcer.

The papillæ of the tongue enlarged; the pharynx and œsophagus congested; several lumbrici found in the intestines and œsophagus; the fæces appeared to be of ordinary quantity, they were but slightly coloured with bile; the liver slightly congested, and sooty in colour, otherwise healthy; the pancreas congested; the lymphatic glands congested; both kidneys congested and watery; the bladder empty; capillary injection at the neck.

On opening the chest, the contents have a nearly healthy appearance; the lungs, however, having a slightly pink [illegible]; extensive adhesions are found [illegible] the opposing surfaces of the [illegible]had, in [illegible] both sides, evidently the result of *old* disease, and are mostly situated at the lower lobes, which are much gorged with blood, and contain an accumulation probably of mucus; the pleural surface of the diaphragm congested; the pleuræ conjointly contained about twenty ounces of serum.

The entire surface of the mucous membrane of the larynx and trachea shows signs of inflammation, old and recent, and extending throughout the bronchi; fibrinous clots are found loose in the larynx.

In the course of the anterior raphé of the heart is seen an enormously distended lymphatic vessel; the right ventricle contains a polypus: otherwise healthy. The brain and its membranes greatly congested: no fluid in the ventricles.

REMARKS.—It is our firm conviction from this case, and from the careful experiments we have made with the drug upon animals, that not only the recent inflammations and congestions had been caused by it, but that the signs of chronic inflammation in the bronchial tubes, alimentary canal, peritoneum, &c., had also been caused by this or some other irritant given at intervals for a considerable period, as recommended by the so-called medical botanists.

The counsel for the defence did not question the poisonous nature of lobelia, but endeavoured to account for the post-mortem appearances from natural causes; and in order to do so, he took *permanent obstruction* of the bowels, which never existed, as his foundation. Although informed it was not present in this case, he framed his questions in such a manner as to lead the judge and jury to believe that they referred to Wilson's case: thus, *might* not *obstruction* cause inflammation of the bowels—*might* not this spread to the stomach? might not this spread to the peritoneum and bladder? *might* not these cause congestion of the lungs and brain? What medical man could undertake to say what such a mass of disease *might not* do! It *might* more reasonably be doubted whether such a mass of *acute* inflammation ever existed in the same subject at the same time; at all events, it could not arise in this case from a state of things which never had any existence; again, he examined upon the poisonous action of opium, though the patient never took any of that drug from us.

Of the learned counsel's address to the jury we will say nothing, except that it

would have done credit to "Dr. Coffin" himself.

PROPHYLACTIC TREATMENT DURING THE PREVALENCE OF CHOLERA.

Sir,—As you invite a correspondence upon the subject of cholera, permit me, through your pages, to make the following inquiries of the gentlemen who have engaged in the discussions at the South London Medical Society, or of any others who are really experienced in the treatment of this intractable disease:—

1st. Whether there exists any remedial agent that can be, with any prospect of success, employed as a prophylactic or preventive of cholera?

All the causes which by common consent are considered to favour the development of cholera also originate febrile diseases. The reports of naval and military surgeons have stated that the crews of vessels, and communities exposed to bilious, remittent, and yellow fevers, have been preserved by a dose of quinine taken twice or thrice a day as a prophylactic. Would not the same agent possibly be useful to medical men, nurses, and families especially exposed to cholera? Whether it be derived from contagion, or from local malaria, may not the quinine correct the febrile tendency upon which its accession depends? The heavy loss sustained by the whole profession in the death of the lamented Mr. Key, and of other valuable men, seems to demand that our inquiries ought to be directed towards the discovery of some *preserving* agency. Let us hope that the present visitation will not quite pass away without some practical suggestion of this nature.

2d. It seems to be agreed that the premonitory stage is curable by various means; and also that the fully-formed collapse resists nearly all the treatment hitherto employed. Let me inquire respecting the stage of reaction? Are not its symptoms and fatal issue very generally to be ascribed to the circulation of urea in the blood? or of other matters which ought to be separated by the kidneys?

Perhaps a careful analysis of the blood and urine in the stage of reaction, and an attentive observation of the effects of bloodletting, and of diuretics in this stage, may eventually lead to a determinate and certain practice, by which many cases now given up as hopeless may hereafter be successfully treated. A *fact* well established is of more value than many theories. In the stage of collapse I never knew one patient recover whose respiration was much quickened. Laborious *panting* breathing was *invariably* a fatal sign. Slowness of the respiration (I have known it often at sixteen, and in one patient nine, in the minute) was much less dangerous. Good statistical records on this and other points are required to fix the value of symptoms. The hiccough, for instance, is an early and unfavourable symptom of reaction. It is often prolonged to twenty-four or thirty-six hours. Does it promote or retard the recovery, and ought it to be let alone, or treated? And is it proportioned in severity to the degree and duration of the collapse? or to the amount of stimulants employed? A few hints from you on practical considerations will give a more useful direction to the inquiries and discussions of medical societies.

My object is to elicit inquiry, not to offer the result of any experience.—I am,

Your obedient servant,

A Constant Reader.

*** Dr. Laycock, of York, has already employed sulphate of quinine as a prophylactic with great success. [See page 402 of this volume.] Our correspondent will also find that its employment in cholera has been recommended by Dr. Little. See Medical Gazette, December 15, 1848, page 1015.

ON THE USE OF GALVANISM IN THE TREATMENT OF CHOLERA.

Sir,—It seems to be generally admitted that the efficacy of mercurials in cholera is mainly attributable to the prompt and powerful action exerted by that class of medicines upon the liver and portal system. If this assumption be correct, it is then, I think, not unreasonable to infer that any other therapeutic agent capable of acting readily and energetically upon the liver might also be employed with advantage in the treatment of the present epidemic. Now, galvanism appears to be such an agent, seeing that it is an extremely potent local stimulant, and has accordingly been found highly useful, both here and on the continent, in numerous hepatic disorders, more especially those arising from inertia or congestion of the liver. I would, therefore, recommend that in cases of cholera a galvanic current be passed, by means of a coil machine or ordinary battery, through the region of the liver, and that such current be sustained until the colouring matter of the bile become apparent in the stools; the intensity of the current being of course regulated by the judgment of the operator. It may not, however, be improper to add that, in most diseases to which galvanism has hitherto been found applicable, moderately strong and somewhat protracted currents have proved more serviceable than those of very high tension, and consequently brief duration.

Should you deem the above humble sug-

gestion worthy a place in your valuable columns, I shall feel obliged by its early insertion, having the honour to remain, sir,

Yours very respectfully,

W. H. O.

Surrey Place,
30th August, 1849.

Medical Intelligence.

THE CHOLERA IN LIVERPOOL.

Sept. 5.—The cholera has been more severe at Liverpool than in most other provincial towns. Within the last twenty-four hours 180 additional cases have been reported.

THE CHOLERA IN OXFORD.

Sept. 5.—The cholera has somewhat abated in this city, and for the last few days the returns made to the Board of Heath have been of a more favourable character. The number of cases up to the present time is 41, out of which there have been 20 deaths, 18 recoveries, and 3 still remain under medical treatment.

THE CHOLERA AT BRISTOL.

Sept. 5.—The following is the return this day for the city of Bristol:—St. Peter's Hospital, Sept. 5, diarrhœa, 12; approaching cholera, 9; cholera, 13; deaths, 12. Of the above cases the greater proportion are from the parish of Temple. At Stapleton workhouse the mortality and cases are very high; the return to-day gives 66 new cases of diarrhœa, 10 cholera, and 10 deaths. Altogether there have been 53 deaths in the workhouse, but an examination of the registry shows that the deaths have principally occurred amongst aged persons and young children.

THE CHOLERA IN MERTHYR AND NEIGHBOURHOOD.

THE following is the official return for Tuesday, Sept. 4:—Merthyr, new cases—attacked, 12; dead, 5. Aberdare—attacked, 3; dead, 1.

THE CHOLERA IN IRELAND.

Dublin—From August 28th to September 3d inclusive.

	Remaining.	Admitted.	Discharged.	Died.	Remaining.
Green-street Hospital.	35	53	23	25	40
Total . . .	—	958	437	481	40
Brunswick-st. Hosp.	5	18	5	5	13
Total. . . .	—	461	239	200	13
Kilmainham Hospital.	37	59	31	23	47
Total . . .	—	1048	499	512	27

Belfast, Aug. 24th.—New cases during the past week, 38; deaths, 36.

Downpatrick.—Total number of cases up to the 24th ult., 73; deaths, 36.

Cork.—The disease is reported to be declining here.

Waterford.—The reports continue to be favourable.

During the past fortnight the disease has prevailed more or less extensively in several localities in the county Dublin, particularly at Castleknock, Blanchardstown, Golden Bridge, Rush, &c.

THE CHOLERA AT NEW YORK.

THE deaths by cholera in New York are on the decrease. The packet ship Oxford, arrived at New York, lost 21 by the disease; the packet ship Sheridan, 31; and the emigrant ship Jersey, 10.

ORDERS FROM THE BOARD OF HEALTH ON THE PREVENTION OF DISEASE.

A RECENT number of the *Gazette* contains a series of instructions issued by the General Board of Health to the Board of guardians of the Stepney Union, and of the Holborn Union, to appoint medical or other qualified persons to carry out a system of house-to-house visitation, to provide places for the reception of the families of necessitous persons attacked with cholera, and to see to the cleansing of the houses from which they may have been removed; also, that notice shall be given by handbills of the places where medical and other assistance may be procured. The guardians of the poor in Bethnal Green, and in the parish of St. Leonard, Shoreditch, are, by similar notices, directed to provide staffs of men, and the necessary materials for cleansing and lime washing infected houses, and to secure additional supplies of water for washing courts and other confined localities in their respective parishes.

ON THE NUTRITIOUS PROPERTIES OF WHEAT GROWN IN DIFFERENT COUNTRIES.

A FIRST report of some experiments on the bread stuffs of the United States made by Professor Beck for the Government at Washington has just been published, the object having been to ascertain how the intrinsic value of the various kinds of grain may be determined, their injury guarded against, and their adulterations detected. The aggregate amount of grain convertible into bread stuff or its substitutes annually produced throughout the Union is estimated at 900 millions bushels, of which nearly one-half is Indian corn, while the total of all kinds required for home consumption does not exceed 300 millions. The quantity of wheat is supposed to be about 100 mil-

lions of bushels, and it is to wheat and wheat flour that the present report is confined. With regard to the amount of water contained in the various sorts. the results obtained by Professor Beck give 16 to 20 per cent. for Alsatian, 14 to 17 per cent. for English, 12 to 14 per cent. for American, and 9 to 11 per cent. for African and Sicilian. In relation to the amount of gluten in various samples of flour from different parts of the United States and Europe, the preference is awarded to the Kubanka variety, from the south of Russia. On the subject of loss by the presence of moisture from want of due precautions, it is stated that the books of a single inspector in New York city showed that, in 1847, he inspected 218,679 barrels of sour and musty flour, and that every year the total loss in the United States from moisture in wheat and flour is estimated at from 3,000,000 dols. to 5,000,000 dols.

PENALTY ON ILLEGAL MEDICAL PRACTITIONERS — PROCEEDINGS IN COUNTY COURTS.

A CASE was recently tried at Hungerford, before the County Court of Berkshire, in which a person named Bishop, who resides at Ramsbury, in Wiltshire, was charged by the Apothecaries' Company with practising as an apothecary, without being legally qualified. Mr. W. H. Rowland, who appeared for the plaintiffs, stated the nature of the case, and explained that the action was brought under the 55th of George III., chap. 194, commonly called the Apothecaries' Act, by which it is provided that it shall not be lawful for any person or persons (except persons then in practice as such) to practise as an apothecary in any part of England or Wales, unless he has passed his examination, and received a certificate of his being duly qualified. He then adduced evidence to prove that Bishop, who possessed no certificate, had acted as an apothecary, and furnished medicines for the use of a man named Henry Bagman, who subsequently died. Mr. Astley, for the defence, endeavoured to show that the evidence had failed in proving the charge, and raised some technical objections, which were overruled by the Court. He denied that there was any proof of his client, who was a very respectable man, practising at Ramsbury as a physician and chemist, having compounded the medicine. The jury, however, brought in a verdict for the plaintiffs for £20, the amount claimed. This is said to be the first case of the kind which has been tried on the merits.

OBITUARY.

IN Dublin, on the 26th ult., Cusach Roney, Esq., M.D., aged 69; and on the previous day his only daughter, Charlotte, wife of Edward Dillon, Esq., aged 41.

On the 19th July, Daniel Arnoldi, Esq., M.D., President of the College of Physicians and Surgeons of Lower Canada; one of the oldest, most honoured, and esteemed Physicians of the Province.

On 30th July, at Beauharnois, aged 27, Robert Cartier, Esq., M.D., of cholera; apparently contracted in the discharge of professional duty on cholera patients at Chateaugay.

Selections from Journals.

ON THE CAUSES OF INTERMITTENT AND REMITTENT FEVERS, BY DR. GAYLEY.

DR. GAYLEY has arrived at the following conclusions regarding the Etiology of Intermittent and Remittent fevers:—

1. That the lungs and the liver are the great decarbonizing organs of the body; that, their function being complementary, the activity of that function is always in an inverse ratio.

2. That during winter, the lungs, from the part they perform in the generation of animal heat, are the more active organs. On the other hand, in summer, the liver is the more active.

3. That exposure to a low temperature repels the blood from the surface to the internal organs. If this exposure takes place in winter, the lungs being then the active organ, the brunt of the congestion falls on some part of the respiratory apparatus: hence, we have bronchitis, pleurisy, pneumonia, and catarrh, as the prevailing diseases.

4. But if this exposure takes place in summer, the liver being then in a state of stimulation, the force of the congestion falls on it. It becomes deranged, involving all those organs, more or less, whose blood has to pass through the liver to reach the heart. Hence, we have bilious affections, as intermittents, remittents, dysenteries, &c., as the prevailing diseases.

5. That the pulmonary diseases of winter and of cold climates, and the hepatic diseases of summer and of warm climates, are both produced by the same agents acting on the system; the different effects being solely owing to the different modifications of the agents, and the different conditions of the system when exposed to their influence; and we might with as much truth say that malaria was the cause of the one as of the other.

Nature is simple in all her operations. It is only in proportion to our ignorance that she appears mysterious. The mystery that

all admit to hang over the origin of these diseases, and the failure that has hitherto attended every effort to explain it satisfactorily, we think is solely owing to the spirit of inquiry being on the wrong track. The idea of a specific poison, first started by Lancisi, has been embraced by most writers on the subject ever since: as a consequence, their labours have been expended in tracing the origin of a thing, the very existence of which is hypothetical.

Of the truth of this, the Proteus-like appearance that this agent assumes in the hands, or rather the heads of different writers on the subject, is *primâ facie* evidence. Thus one describes it as being softened or entirely disarmed by passing over 800 yards of water. (Sir G. Blane.) Another thinks it can safely perform the voyage from Holland to England, yea, even to Scotland, a distance of not less than four hundred miles! (M'Culloch.) It cannot ascend to the second story of a house, and yet can seize its victim on a mountain side four hundred feet high. (Ferguson.) Stygian-like it ascends from the bowels of the earth, and angel-like descends with the dews from heaven. Were it delineated with all its eccentricities attached, I doubt much if even its most devoted admirers would be pleased with the picture.—*American Journal of Medical Sciences*, 1849.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Microscopic Anatomy of the Human Body in Health and Disease. By A. H. Hassall, M.B. &c. Part 15 (last).

Monthly Journal and Retrospect of the Medical Sciences. Sept. 1849.

The Modern Housewife, or Ménagère. By Alexis Soyer.

Healthy Homes: a Guide to the Proper Regulation of Buildings, Streets, Drains, and Sewers. By William Hosking, Architect and C.E.

Le Choléra devant l'Humanité. Par le Dr. Edouard Feraud.

La Presse Médicale. No. 36, 2e Sept.

The Quarterly Journal of the Chemical Society of London. October 1, 1849.

Casper's Wochenschrift für die gesammte Heilkunde. Von Dr. Casper. Nos. 28 to 33. 14th July to the 18th August.

Handbook of Chemistry. By Leopold Gmelin. Vol. 2. Translated by Henry Watts, B.D. F.C.S.

London Journal of Medicine. Sept. 1849.

Journal of Public Health. Sept. 1849.

Contributions to the Pathology of Cholera, &c. By James Bird, A.M. M.D.

The British American Journal of Medical and Physical Science. August 1849.

A Treatise on Cholera. By N. Alcock, A.B. M.B.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Sept. 5.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	632	Males....	1321	Males....	513
Females..	595	Females..	1475	Females..	495
	1227		2796		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	2796	1008
Specified Causes	2794	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	2069	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	52	36
3. Brain, Spinal Marrow, Nerves, and Senses	135	115
4. Heart and Bloodvessels	33	38
5. Lungs and organs of Respiration	94	81
6. Stomach, Liver, &c.	72	68
7. Diseases of the Kidneys, &c.	5	8
8. Childbirth, Diseases of Uterus, &c.	9	11
9. Rheumatism, Diseases of Bones, Joints, &c.	6	6
10. Skin	1	1
11. Old Age	52	32
12. Sudden Deaths	15	8
13. Violence, Privation, Cold, &c.	27	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	7	Convulsions	38
Measles	25	Bronchitis	27
Scarlatina	27	Pneumonia	48
Hooping-cough	33	Phthisis	110
Diarrhœa	234	Lungs	6
Cholera	1663	Teething	14
Typhus	47	Stomach	9
Dropsy	20	Liver	9
Hydrocephalus	28		
Apoplexy	23	Childbirth	4
Paralysis	26	Uterus	3

Remarks.—The total number of deaths was 1788 above the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·77

" " " Thermometer[a] ..... 64·

Self-registering do.[b] ....Max. 82· Min. 44·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·52—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 4.°1 above the mean of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Communications have been received from Mr. Adams, Dr. Routh, and Dr. G. Robinson (Newcastle.) These will be inserted without delay.

Mr. W. E. Robbs's paper has been received and will have early insertion.

MANCHESTER MEDICAL SOCIETY

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXIV.

AMPUTATION.

Importance of the subject—origin of amputation—its progress among the earlier surgeons—circumstances through which amputation may be rendered necessary—difficulty of determining in all cases whether amputation ought or ought not to be performed—reasons for deferring amputation in injuries accidentally produced — secondary amputation — when necessary—cases—non-union of fracture —circumstances preventing union—treatment. Tetanus—symptoms — prognosis —treatment—case.

During the period of the war in which this country was involved for so many years, an ample opportunity was afforded to the members of the medical profession, in the service both of the Army and Navy, practically to investigate every circumstance connected with injuries to limbs, which might render amputation necessary; and many of them have added much to the science of surgery, by communicating to the profession generally the results of the observations derived from their peculiar occupation.

The peaceable state of Europe for nearly thirty years has, however, not only removed this source of inquiry and improvement upon the subject of local injuries, but the length of time that has elapsed has even tended to throw into oblivion the numerous recorded facts which had been accumulated.

At the same time, it should be remembered that the subject has lost neither its interest nor importance; for the rapid extension of machinery has given rise, of late, to many and frightful accidents, in which the injuries that have been suffered, though differing in their causes, are so similar in nature, to those occurring in military service, as no less to require the utmost caution in deciding the question of immediate amputation; and in no class of accidents is this caution more especially requisite than in those which happen upon railways.

The removal of limbs by amputation seems first to have been suggested by observing the process by which nature spontaneously separates a dead from a living part in the human body; the progressive steps of which are so obvious as naturally to give rise to the idea of quickly performing by art what nature can only effects lowly: thus diminishing the period of suffering of the patient, by removing the source of protracted constitutional irritation.

At this early period in the history of amputation, the incisions were made only through the mortified parts, leaving a dead portion still to be separated by nature: the means of checking hæmorrhage not then being understood. Galen, in cases of mortification in which a joint was implicated, recommended amputation through the articulation, in preference to the removal of the limb in the continuity of the bone; but still advised that a portion of the gangrene should always be left, either to be separated by the efforts of nature, or to be destroyed by actual cautery, as circumstances might dictate. This practice was adopted by the surgeons of his period with but very little variety in treatment, varying only as to the quantity of the dead part which were to be left, and the kind of escharotic to be employed in assisting the ultimate separation.

This practice, in the infancy of operative surgery, although followed to a great extent, was not universally employed; for the Arabian surgeons deprecated the practice, and invariably left the gangrenous part to be separated by nature's efforts only. Until the fourteenth century, no amputations were performed through living tissues; and the only differences of practice, in cases of mortification, were as to the means employed to facilitate the removal of the gangrene. At this period, the invention of gunpowder produced a new epoch in the surgical treatment of severe local injuries, and surgeons were obliged to have recourse to the amputation of shattered limbs through living parts; hence arose the invention of applying a ligature upon divided arteries. The spontaneous obliteration of the blood-vessels after gun-shot wounds, probably led the surgeons of that period to anticipate the permanent obliteration of an artery from the application of a ligature; and Ambrose Paré seems to have been the first who recommended the amputation of living parts, having confidence in the efficacy of the ligature to check bleeding. This mode of procedure, as is too frequently the case on the first introduction of any discovery, met with great opposition, and every obstacle was offered to its employment which ignorance and envy could suggest. Nothing, however, could check an improvement so scientific and practically useful, and the employment of the ligature became universal. But still, even with this advantage, without the use of the tourniquet amputation must have been a very dangerous and

tedious operation, as the vessels must have been cut through before the ligatures could be applied, and without any means being employed to stop the bleeding during their application: and therefore each vessel must have been tied as soon as divided. There seems to have been but little improvement in the method of amputating from this period until the middle of the seventeenth century, when some rough attempts were made by a general compression around the limb, previous to submitting the patient to amputation; but whether with the view of benumbing the limb, or of checking the circulation of the blood, does not seem very clear. M. Morell, a French surgeon, seemed, however, to take a hint from this plan, and evidently employed an apparatus for the express purpose of stopping the flow of blood during the incisions through living parts; his contrivance was, however, so rough and complicated as to render it scarcely applicable to the purposes for which it was employed. M. Petit, at once, however, saw the advantages which might be derived by a modification of this instrument, and may be said to be the inventor of the tourniquet. From that time every instrument essential to amputation may be said to be known; surgeons having now acquired the means of preventing bleeding during the operation by the use of the tourniquet; and after it, by the application of the ligature. These facilities were, however, at first productive of harm, from the frequent recourse which was had to the removal of limbs in cases where it was not warrantable; and many a patient became the subject of mutilation, from the safety which the newly-invented mechanical means afforded in the operation of amputation. The surgeons of that period, led away by the novelty, and too eager for the *éclat* of the operation, lost sight of the more important object of saving the limb by the application of such medical means as were likely to assist nature in the process of restoration; and much mischief arose from the abuse of a practice, which, if it had been only judiciously employed, must have been considered one of the greatest improvements in surgery. Soon, however, surgeons began to reflect upon the impropriety of these frequent mutilations to which patients were submitted; and an opposite party arose, who espoused the practice of attempting to save every limb. Le Dran, of France, and Bromfield, of our own country, published on this subject, and both equally condemned the frequent recourse that was had to amputation; but it may perhaps be considered, even at the present day, that, in their laudable attempts to check the needless sacrifice of limbs, they committed nearly an equal error, in too frequently leaving severe local injuries to the protracted efforts of nature; although it must be acknowledged that many cases of restoration, both of limb and health, are recorded, in which the opposite party would have amputated.

This controversy could not, as might have been supposed, be fairly settled by these opposing parties during the heat of their argument, but yet much benefit was derived from their difference of opinion, as they showed that their respective plans were equally applicable, under particular circumstances; and that, in the one case, it was as right to attempt to save, as, in the other, it might be judicious to remove the affected limb. Hence arose a new epoch in the history of amputation; and the greater number of surgeons recommended a middle course to be pursued, pointing out, at the same time, the various circumstances which were to be taken into consideration, before either the one plan or the other could be safely adopted; and various treatises, both in this country and in France, were written, for the purpose of laying down the rules and principles by which the practice was to be regulated.

Amputation may be rendered necessary from a great variety of circumstances, arising either from disease or the accidental mutilation of a limb demanding the removal of the injured part for the preservation of the sufferer; and whenever the power of medicine is insufficient to remove the disease upon which the local deterioration is dependent, or the constitution is incapable of keeping up the vital action in case of severe mechanical injury, the operation of amputating the part will always be resorted to, upon the principle that it is just to sacrifice a part for the preservation of the whole.

The formidable nature of the operation of amputation, the great pain and danger more or less inseparable from it, and the circumstance of its leaving the patient mutilated and crippled for the remainder of his life, render it a matter of great importance that the decision of the surgeon should be formed upon the strictest investigation; but nevertheless, it is often very difficult to determine whether a limb ought to be at once amputated, from fear of the constitution giving way under the continued irritation from the protracted period necessary for the cure, or whether a certain amount of risk ought to be incurred in the hope of saving the limb, the surgeon trusting to medical treatment to support the constitutional powers through the severe calls made upon them in the progress of the reparation. The character and extent of the disease or injury, the peculiarities of the structures implicated, the age, sex, and condition in life of the patient, the temperament, locality of his abode, the soundness or unsoundness of his internal

organs, and his idiosyncrasy, must all be closely considered, and upon this investigation the practitioner will decide either upon the advisability of at once removing the limb, or upon leaving it to the restorative efforts of nature. Not that it is an easy task to form a correct judgment as to the probable powers of the constitution to effect reparation, or the liability of the health to fail during a lengthened period of disease and suffering: for frequently, so closely do the chances bear between the tendency of the disease to advance, and that of the constitution to repel its attacks, that conflicting medical opinions often serve to increase the difficulty, and that too at a moment when delay may lead to a change of symptoms which would entirely preclude the possibility of ever after resorting to the operation; and the danger occurring from such indecision applies equally to disease and accidental injury.

It does not necessarily follow, however severe the local injury or violent the disease, that immediate amputation can always be performed, for there may be concomitant circumstances that would render such practice inadmissible. For instance, in case of severe local injury, the nervous system may have received so severe a shock as to have produced that condition termed collapse, or in disease, the vital powers may have been much reduced. In the first instance it is necessary to wait for reaction, and in the second for the renovation of the health, before the patient could be subjected to the operation. It is, however, as I have said before, always difficult to determine the exact amount of injury which would render immediate amputation necessary; for an accident which in a robust constitution would perhaps undergo cure with but little functional disturbance, may in a person of weak powers and irritable temperament, produce so much general derangement that it would be most injudicious to attempt to save the limb at the risk of the life of the patient. It may perhaps be laid down as a general rule, that in cases of fracture attended with comminution of bone, laceration of soft parts, tearing through of blood vessels and nerves, and the laying open of large joints, amputation should immediately be had recourse to, unless there be some concomitant circumstance to prevent it. Collapse is a frequent cause of delay in the performance of amputation after severe accidents, and the surgeon should never think of operating until after reaction had taken place. It is true collapse may continue through several hours, and indeed stimuli may be required to establish the reaction: the delay caused by the prostration of the patient is not, however, so dangerous as it may at first appear to be, for during the period of the collapse neither constitutional nor local irritation are induced, so that the quiescent state of the patient enables the surgeon to wait until the vital powers are somewhat restored, and then the operation may be performed with as much prospect of success as if under different circumstances the limb had been removed immediately after the accident. If, however, the injury be unattended with collapse, I believe that the amputation may be performed as soon as possible after the necessity for that step has been decided on. Amputation may become necessary in case of distortion arising either from accident, disease, or congenital malformation; not only on account of the limb being unfitted for its own natural functions, but from its proving an impediment to the performance of other duties essential to the common occupations of life. Under such circumstances I consider a surgeon bound to accede to the request of the sufferer, to remove an inconvenience of such a permanent character; unless, indeed, there be something in the state of the patient's health to forbid the performance of the operation. In some rare cases even slight local injuries lead to the necessity for amputation, on account of their inducing so high a degree of morbid sensibility in the nerves of the injured limb, as to leave no alternative but its removal. Secondary amputation is sometimes obliged to be had recourse to in consequence of the truncated extremities of the nerves of the stump becoming affected with a peculiar morbid enlargement, attended with such acute suffering as to lead to the necessity either of their extirpation or of a portion of the stump being removed. I have seen in the practice of others, and have myself adopted both these methods, but prefer the latter, not only because the removal of the diseased nerves is much more painful than the amputation of the stump, but also because the former operation is frequently unsuccessful in consequence of the diseased nerves setting up the same morbid action after the sensitive bulbous extremity has been removed. I remember the case of a Lieutenant in the Navy, whose leg had been amputated, but who was never free from suffering after the operation. Sir Astley Cooper cut down upon the sciatic nerve, and removed the sensitive tumor that had been formed; but the operation was attended with great difficulty, owing to the excruciating pain it caused the patient, and after all it proved useless, for in a few weeks the pain returned as violently as ever, and the stump was obliged to be amputated close to the hip-joint: this operation proved, I believe, successful in removing the nervous pains. It is not always, however, that the secondary amputation is productive of any benefit. The following is a case in which it was unsuccessfully employed —A young woman was admitted into St. Thomas's

Hospital, with injury to the wrist joint, which subsequently rendered amputation of the fore-arm necessary. Soon after the operation she began to complain of excessive pain in the extremity of the stump, the pain being felt only in two defined spots; the slightest pressure upon the parts of the surface answering to the position of the incised ends of the radial and ulnar nerves produced the most intense agony, threatening an epileptic fit. The late Mr. Tyrrell recommended a secondary amputation below the elbow: the operation was accordingly performed, and for some time there appeared every prospect of a permanent cure; but in about three months the pain returned with its former severity, and amputation above the elbow was obliged to be had recourse to, and was, I believe, performed in the London Hospital. The neuralgic affection still, however, returned, and she came into Guy's Hospital under my care. As it appeared that so little could be expected from surgical operation, every remedy that could be thought of was assiduously employed, but the patient was very desirous that a fourth amputation should be tried; and ultimately I removed the stump at the shoulder joint. To my great surprise and satisfaction, from this time the pain entirely left her; and I know that in six years afterwards she had not had the slightest return of it.

In cases of fracture even under apparently favourable conditions, the efforts of the surgeon to save the injured limb are not always crowned with success. Unforeseen circumstances may arise, and notwithstanding the employment of the most judicious treatment, and the application of the best mechanical adjuncts, amputation may ultimately become unavoidable. The laceration of a bloodvessel may render a modification of treatment necessary, even if amputation be not actually demanded; for if the lesion of the vessel be in such a situation that the trunk can be tied without stopping the circulation of the blood through the limb, a ligature should be applied to the wounded artery; but if mortification be threatened, such a procedure would be unwarrantable, and amputation must in that case be had recourse to. The non-union of the bone after fracture, no matter whether the defect arise from constitutional or mechanical causes, complicates greatly to the treatment of the injury; and it becomes very important for the surgeon to determine whether the failure in the ossific union depend upon a peculiar constitutional deterioration, or upon the physical condition of the fracture itself. If the constitution be at fault, the peculiar functional derangement must be sought for, and if discovered combatted by the use of appropriate remedies: if, for instance, the powers of the assimilative organs be impaired, they must be improved by the use of tonics and alteratives: at the same time great care must be taken to keep the fractured limb in a perfect state of rest, for I am thoroughly convinced that motion of the ends of the broken bone is by far the most frequent cause of the non-union of the fracture.

The ossific union is sometimes prevented by portions of muscle, fascia, or other structure getting between the ragged ends of the bone, and preventing their perfect coaptation: when there is reason to believe that such is the case, and all the usual means of adapting the fractured bone have failed, it becomes a matter of urgent question whether the substance entangled between the extremities of the fractured bone ought to be removed by cutting down to the injured part; whether the ends of the bone ought to be brought together by force, with the view of producing absorption of the intervening substance; or whether the limb, under such circumstances, ought to be amputated.

The first indication, viz. that of cutting down upon the fracture, should only be undertaken under very favourable circumstances: it must be remembered that by this plan a simple is converted into a compound fracture; and even if the removal of the intervening substance be effected, there may still be insuperable difficulty in perfecting the cure, and the patient may, indeed, be reduced to a much worse condition than at first. I think it better to produce extension of the limb, and then to bring the broken ends of the bone in as close adaptation as possible, pressing them towards each other, so as to promote the absorption of the structure which is between the portions of bone; and I believe that by such treatment I have ultimately succeeded in producing union where it had proved obstinate for some time under the employment of other means. Should a large nerve be entangled with other structures between the ends of the broken bone, it will be known at once by the pain produced in pressing the ends of the bone together: in that case of course the pressure could not be maintained, and some other mode of treatment must be substituted; indeed, under these circumstances, amputation would probably be considered necessary.

I have seen instances of failure of the union of a fracture in patients in whom there could not be traced the slightest deviation from health to indicate the employment of one remedy in preference to another. In such cases I have sometimes succeeded in producing the consolidation of the bone under the influence of mercury, even after continued pressure, seton, and other violent means, had totally failed. Should mortifica-

tion supervene upon severe injury to a limb, it ought to be ascertained before amputation be performed, whether the death of the patient depend upon constitutional inability to establish and maintain the process of reparation, or whether it depends upon a want of power in the limb itself, in consequence of the extensive destruction of the parts, an effect so often witnessed in gun-shot wounds. Another question also arises here, as to whether the mortified part should be amputated, supposing no line of demarcation to be yet formed between the living and dead tissues. In my opinion, if there be reason to believe that the loss of vitality does not depend upon idiopathic deficiency, amputation ought at once to be performed; but if, on the contrary, it depend upon a defective constitution. the removal of the gangrenous part should be delayed until there is some evidence of an attempt on the part of living portion of the limb to throw off the dead. There are, however, many differences of opinion on this point: some surgeons recommend that the operation should be performed as soon as mortification has commenced. I cannot agree with this practice, and believe that, under these circumstances, an incision should never be made in the living structure until the process of separation has commenced, although it may be right to remove a portion of a gangrenous extremity to diminish the inconvenience and general difficulties arising from such a condition.

Tetanus, that most fatal disease, not unfrequently supervenes upon severe injury to a limb, and may operate as a cause of secondary amputation, even after there had been just reason to hope that the limb might be saved. Traumatic tetanus has been regarded by surgeons as one of the most formidable of the diseases to which the human frame is liable, and it has occupied a degree of attention on the part of surgeons commensurate with its important character. The accumulated facts have, however, as yet served to throw but little light on the true nature of this disease, and no remedy or system of treatment has yet been found sufficient to control its direful effects. From the history of tetanus it does not appear that any particular symptom is universally indicative of its approach; unless, indeed, the obstinate costiveness so generally concomitant with this disease can be looked upon in that light.

When tetanus has followed upon injury to the extremities, it has always been a question whether immediate amputation of the limb ought not to be had recourse to, in the hope that, after the removal of the supposed cause, the effect would directly subside. I use the expression "supposed cause;" for in my opinion, in all cases of traumatic tetanus the injury can only be regarded as the exciting cause, as there is always, I believe, a kind of tetanic diathesis in individuals who are attacked by this disease.

The above view seems to me to be supported by the fact that a great variety of different causes produce the disease; which does not, indeed, appear to depend either upon the severity or kind of wound inflicted, nor upon the part of the body in which the injury is situated; neither does the wound itself present any appearance that could lead to the supposition that a peculiar action had been set up, or impression produced upon the nervous system. Even post-mortem examinations have hitherto completely failed in throwing any light upon the subject of tetanic affections.

Baron Larrey, during the war in Egypt, amputated in several cases after symptoms of tetanus had commenced, and this practice was attended with sufficient success to induce him to recommend it. Instead, however, of the general adoption of this plan, I should recommend that the condition of the wound should first be strictly examined, and also the state of the constitution of the patient; so that, where there appears the least tendency to tetanus, prophylactic measures may be taken to ward off the attack. When, for example, there seems reason to dread an attack of tetanus in consequence of a punctured wound, the latter ought to be converted into an incised one by laying it freely open to the same depth as the original puncture; and, should it then be discovered that a branch of a nerve had been punctured or partially divided, it ought at once to be cut completely through, so as to remove the continued irritation that would arise from its being only wounded. It has been said that suppuration prevents the accession of tetanic symptoms, and that it even relieves them after they have set in. If this could be proved to be the case, it would of course be desirable to promote suppuration as a prophylactic means of treatment. My own experience leads me, however, to doubt the correctness of the hypothesis; for I have witnessed three successive cases of tetanus in which the symptoms first appeared during the progress of suppuration, and in each of these cases the discharge of pus went on until the death of the patient. I cannot, therefore, approve of the plan adopted by some surgeons, of cauterizing the wound, to induce suppuration. The following case is one in which I was induced to amputate a limb after tetanic symptoms had supervened. In this instance I was the more disposed to have recourse to this practice, as the injury was so severe that there existed no probability of the limb being restored to a state of usefulness.

William Marshall, æt. 11, was admitted into Guy's Hospital on April 14th, 1849. His left leg and foot had been very severely injured by a railway luggage-train crushing it against some brickwork. There was a large wound on the inner side of the left tibia, extending upwards from the malleolus to the extent of two inches. The saphena major vein was exposed, the posterior tibial artery torn through, and the nerve laid bare. It was considered advisable by Mr. Hilton to endeavour to save the limb, and he therefore placed a ligature on the proximal extremity of the divided artery, brought the soft parts together by sutures and strapping, and applied an outer splint with a foot-piece. The limb was kept in a somewhat elevated position. As the lad was in a state of partial collapse, stimuli were administered; reaction was consequently produced soon after.

On the day after his admission he had recovered from the shock; had slept during the night, and the limb was easy. On the 16th the sutures were removed, and the wound found to be in a sloughing condition. The sloughing continued for the next two days: a sanious discharge had also commenced, and the lad had become irritable and restless. He remained in nearly the same state until the 26th, when I first saw him. I at once saw reason to fear that there was a tetanic tendency, and I desired that I might receive notice the moment any muscular contractions or other tetanic symptoms were manifested. On the evening of the 26th it was observed that the injured limb was drawn up by spasm, and that there was a twitching of the muscles, and the patient was altogether very restless. On the 27th there were distinct symptoms of tetanus: the corners of the mouth were drawn up, nose pinched, and there was general rigidity of the fascial muscles. He was extremely restless and irritable. These symptoms all continued to increase during the morning, notwithstanding treatment, and I was accordingly sent for, as I had requested. As soon as I saw the boy, I determined upon immediate amputation, and this was performed below the knee by the circular incision. Five ligatures were required. Four hours after the operation the wound was dressed. There was no subsequent bleeding.

On the 28th all the tetanic symptoms had disappeared: the face of the patient was restored to its natural expression; his mouth could be opened freely, and he was less irritable. He continued to go on well for some days, so far as concerned his health, taking plenty of nourishment, but there was no indication of healing in the stump. On the 1st of May he became again restless and irritable; there was slight redness of the left knee, and some swelling of the right foot, with tenderness upon pressure. No reparative action had been set up in the stump. All these symptoms continued to increase, the swelling of the right foot extending up the leg to the abdomen; the breathing also was hurried, and there was slight cough. The stump still showed no disposition to heal, and poured out an unhealthy sanious discharge. The symptoms continued unchanged, the patient daily becoming weaker, until the 11th of May, when he died.

Post-mortem examination.— There was œdema of the right foot and ankle, and of the left thigh and abdomen; recent pleurisy of the left side, with inflammatory effusion. On the right side there were patches of ecchymosis on the surface of the pleura, but no effusion. There were also indications of pneumonia, with suppurative points in patches. The liver was pale, but healthy; there was an increased quantity of light-coloured fluid in the pericardium. The mucous membrane, from the mouth to the œsophagus, was all sloughing, and of a dirty brown colour, and there was general sloughing of the tissue and muscles of the right side. The left iliac vein was free and normal, but the femoral vein was obstructed to the extent of three inches. The left external iliac was also obstructed for about an inch of its length. There was pus in the left knee, and also in the right shoulder-joint.

FRACTURE OF THE PENIS.

A YOUNG man, native of Canton, applied to Dr. Parker for relief. He had been married about eight months. On the nuptial night he met with insurmountable difficulty in his attempt to establish sexual intercourse with his bride, and in an effort on that occasion sustained a severe, and most probably irreparable injury, which caused great pain. Since that night, erection of the penis is limited to about a half an inch of its root, the extremity of the organ, with its glans, hanging flaccid.

On examination, a well-defined transverse space through the corpora cavernosa, about a half inch from the pubis, the site of fracture, was found to separate the penis into two parts.

No attempt was made to remedy this serious misfortune.—*American Journal of the Medical Sciences.*

Original Communications.

NOTES ON THE USE OF TARTAR EMETIC IN THE TREATMENT OF INTERMITTENT FEVERS.

By Assistant-Surgeon Moore, B.A.
Gwalior Contingent, Upper India.

The results of the treatment of uncomplicated intermittent fevers with tartar emetic have been satisfactory—more satisfactory than could have been anticipated.

From the number of cases of intermittent fever—or, as the disease is commonly called, "fever and ague"—which have been discharged cured, within the last two years, from the Regimental Hospital of the 3rd infantry, Gwalior Contingent, treated by tartar emetic, I willingly bear testimony to its value in the treatment of intermittent fevers.

As a remedial agent in the treatment of intermittent fever, an impression has been made on my mind, that tartar emetic is preferable to quinine,—to arsenic,—to bark in powder,—or to any other medicine hitherto employed by me in the treatment of these diseases.

Tartar emetic has been administered in nauseating doses, prior to the first stage of the fever, or the stage of invasion. It has been continued during the second or hot stage,—the stage of excitement. It has been continued during the third or sweating stage,—the period of the fever's crisis and decline.

The exhibition of tartar emetic in the treatment of intermittent fevers has been deferred until the bowels have been freely purged by pills or powders of calomel and jalap, followed by the common mixture of senna and Epsom salts. This preparatory evacuation of the bowels by calomel, jalap, or by some other equally active purgatives, has been invariably observed. It is a standing order in the regimental hospital.

When it has been ascertained that the intermittent fever is not complicated with inflammation of the viscera of the thorax and abdomen, the lancet, leeches, and the cupping instrument, are kept in reserve until such inflammations become developed.

These preliminary steps taken, the administration of tartar emetic is commenced after the first paroxysm of the fever has clearly declared itself; the proportionate dose of the medicine for each patient during the progress of the fever being regulated by mixtures marked A, B, C, D, E, of which an ounce every half hour or an hour is a dose. A contains one grain of tartar emetic to one-hundred ounces of water. B one grain to fifty ounces. C one grain to twenty ounces. D one grain to ten ounces. E one grain to five ounces.*

The advantages to be derived from regulating the doses of tartar emetic in this manner consist in having the means at hand to keep the patient's system under the influence of the tartar emetic, without producing any violent effects on the stomach and bowels either by vomiting or purging.

The chief object to be kept in view is, to prostrate the patient's strength so completely, that when the first stage of the fever, or the stage of invasion, has commenced, it must work on the patient's system, debilitated by the nauseating doses of the tartar emetic. In like manner, the prostration of the patient's system is kept up during the progress of the second and third stages of the fever.

"The value of tartar emetic as a remedial agent in uncomplicated intermittent fevers consists in anticipating the fever by prostrating the patient's system previous to the first stage, or the stage of invasion, setting in. In this respect tartrate of antimony and potash possesses advantages over all other medicines classed as emetics. The patient's system once brought under the influence of the medicine, can be kept in a state of extreme prostration by the administration of decimal and centesimal subdivisions of a grain repeated at short intervals without the effects of vomiting and purging being produced.

The centesimal subdivision of one grain of tartar emetic is more suited

* Known in India as Moore's tartar emetic battery.

for children and weakly females than adult males. On this account the mixture has been introduced into the list. When so small a quantity of tartar emetic fails in producing any effect on the system, mixture B, or the fiftieth part of a grain of tartar emetic, can be substituted. The mixture most frequently used in the Regimental Hospital of the 5th infantry is that marked D in the list, or the decimal subdivision of a grain repeated every hour.

The quantity of the tartar emetic can be increased or diminished by changing the mixture, and by shortening or lengthening the intervals of time at which each dose is given.

In three-fourths of the patients thus treated with tartar emetic, the attacks of intermittent fever, if not cut short at once, have been modified. Except in very obstinate cases, each recurring paroxysm has exhibited fewer marks of the acute form of the disease; and, in point of duration, each stage of the fever has undergone a modification. In the simple uncomplicated form of intermittent fever, blood-letting has never been prescribed, nor has bark in any form been ordered. In cases of intermittent fever complicated with congestion and inflammation of one or more of the internal viscera, the lancet, leeches, and cupping, have been freely resorted to in order to aid the effects of the tartar emetic.

Occasionally it happens that if the duration of the fever—quotidian, tertian, quartan—be protracted, the patient's system becomes habituated to the tartar emetic. A mixture in which half a grain of tartar emetic has been ordered every hour has failed to produce the effect of prostration, vomiting, purging, or sweating.

Under these circumstances it is useless to persist in prescribing tartar emetic. The medicine must be omitted. The loss of its influence in prostrating the patient's strength, and in arresting the fever during its different stages, is but temporary. 12 or 15 leeches ought to be applied to the epigastrium and over the liver; or, the quick abstraction of 15 ounces of blood from the epigastric and hypochondriac regions, by means of two or three cupping glasses applied at the same time, should be resorted to. This mode of local depletion is preferable to the application of leeches. Calomel and antimonial powder, 5 grains of each; or, calomel and James's powder, in the same quantities, given at bed-time; and on the following morning a purgative draught, or purgative mixture, into which compound jalap enters, may be prescribed every fourth hour, until free evacuations from the bowels have been produced.

Further treatment of the disease is suspended until a fresh paroxysm of the fever has distinctly declared itself. The tartar emetic is then resumed, and prescribed in the decimal subdivisions of a grain, as in mixture D. This temporary suspension of the tartar emetic, and change in the treatment, has generally succeeded in producing favourable results.

Tartar emetic is a medicine well worthy of an extensive trial in the treatment of intermittent fever. Unaided, it has seldom played false in subduing the uncomplicated form of intermittent fever, however severe. Aided by the lancet, by cupping, or by leeches—Aided also by mercurial purgatives—it has seldom failed in its duty, to either patient or physician, in cases of intermittent fever complicated with congestion and inflammation of one or more of the internal viscera.

The modes of treating intermittent fevers in different parts of the world vary according to the experience of medical men. When Twining lived, he practised blood letting at the commencement of the cold stage of the fever. He has recorded the results of his practice, and has written in raptures of the success of blood-letting in intermittent fever. Others, we have been informed, deified calomel. The voice of the public is decidedly in favour of bark in some form or other. Each one recommends his favourite medicine, as *the* remedy for ague. We cannot doubt that medical men speak and write in sincerity, and record for the benefit of their fellow-men that which they have found from experience to be useful. Upon this principle I place on record the experience I have now had in the treatment of intermittent fever with tartar emetic. I do not recommend this medicine as a *specific*, as a potent infallible cure for this type of fever. Quacks trade upon, and noodles in the profession allow themselves to be befooled by such popular delusions. With them I have

FORM OF REGISTER.

Name and Age.	Type of the Fever—No. of attacks previous to admission.	Commencement and termination of the first or cold stage, or the stage of invasion.		Commencement and termination of the second stage, or stage of excitement.		Commencement and termination of the third stage, or sweating stage.		Duration of the fever from the stage of invasion to the termination of the third stage.	Symptoms noted during the different stages of the fever.	Treatment.	Effects produced on the patient's system.	Duration of the fever after the administration of the medicine.	General Remarks.
		Com.	Ter.	Com.	Ter.	Com.	Ter.						
Mohammed Ally, 20	Quotidian, 2d attack.	12. 30 P.M.	2. P.M.	2. 15 P.M.	4. 30 P.M.	5. 15 P.M	5. 45 P.M.	5 h. 15 m.	Tongue loaded, clammy; rigors; chattering of the teeth; pulse 98; headache.	Purgatives on admission; tartar emetic mixture after 1st paroxysm.	Prostration of strength; nausea; no vomiting.	5 h. 15 m. when first prescribed.	The quotidian type of intermittent fever is particularly amenable to the tartar-emetic line of treatment. It is seldom necessary to give a stronger mixture than D, or the $\frac{1}{10}$th part of a grain every hour.
	3d attack.	2. P.M.	2. 20 P.M.	3. P.M	4. P.M.	4. P.M.	4. 30 P.M.	2. 30	Slight headache; symptoms improved; pulse 90.	Tartar emetic mixture.	Same effects.	2 h. 30 m. after its use for 24 h.	
Haider Ally, 24	Alternate or every 2d day, 2d attack.	1. 15 P.M.	2. 30 P.M.	2. 45 P.M.	4. P.M.	4. 15 P.M.	6. P.M.	4. 45	Severe headache; thirst; foul tongue; quick and small pulse.	Purgatives first and tartar emetic afterwards.	Prostration of strength; nausea; no vomiting.	4 h. 45 m. when first prescribed.	The alternate type of intermittent fever, or that which attacks the patient every other day, is a very common form of disease amongst natives. In Bundlekund it prevails to a great extent. Tartar emetic is equally successful here.
	3d attack.	3. P.M	7. 30 P.M.	3. 30 P.M.	4. 15 P.M.	4. 30 P.M.	6. 30	3. 30	Symptoms less acute.	Tartar emetic mixture.	Same effects.	3 h. 30 m. after its use during t e 3d attack.	
Gunga Deen, 30	Tertian, 2d attack.	11. A.M.	1. 15 P.M.	1. 30 P.M.	3. P.M.	3. P.M	7. P.M.	8.	Sharp fever: symptoms acute.	Purgatives, tartar emetic.	Vomited twice; prostration; nausea.	8 h. when first prescribed.	This type is not so frequently met with as the two preceding. The tartar emetic is omitted in the intervals between the attacks. On the morning of the expected paroysm of fever the medicine is commenced early, and continued during the whole day.
	3d attack.	1.	2.	2. 30	3.	3.	4. 30	3. 30	Modified fever: symptoms slight.	Tartar emetic.	Prostration; nausea; no vomiting.	3 h. 30 m. after its use.	
Jehan Mohammed, 25	Quartan, 1st attack.	3. P.M.	4. 30 P.M.	5. P.M.	7. 30 P.M.	8. P.M.	9. P.M.	6.	Acute fever.	Purgatives, tartar emetic.	Prostration; nausea; no vomiting.	6 h.	A rare type of the intermittent fever compared with the others.

no ambition to be ranked. Nor do I recommend tartar emetic as an *anti-periodic*. So frequently have I been deceived by the anti-periodic virtues said to exist in a certain class of medicines, that I confess myself a sceptic as to any such qualities being inherent in medicine. Quinine, bark in powder, and bark in decoction, administered in small and large, and frequently repeated doses, have failed to check the onset of the fever, or to modify its symptoms. A single dose of Epsom salts has converted a quotidian into a tertian fever; a tertian into the quartan type. Under such circumstances, to which of these medicines ought we to attribute the virtues of anti-periodicity? But, to the value of tartar emetic as a *remedial agent* in the treatment of intermittent fever, the results of more than 300 cases discharged cured, from the Regimental Hospital, 5th Infantry, Gwalior contingent; the results, also, of cases treated under my orders, as Civil Surgeon in charge of the district of Kuchwahargar, in 1847; and at present in charge of the district of Chundeeree, bear sufficient evidence.

The relative value of each medicine, and the relative value of each mode of treatment, in this type of fever, might be tested by the careful record of 100 or 300 cases in a form similar to that annexed. If each practitioner who has devoted his time to the study of the value of a particular medicine, and advocates a particular line of treatment in this disease, would publish the results of his practice in some such form, the profession at large would be enabled to compare the results, and deduce therefrom their own conclusions.*

In these records, all fatal cases, and all unpleasant sequels resulting from the adoption of a particular line of treatment, should be laid before the public. The profession is generally favoured *with the detailed accounts of success in practice;* seldom, however, are the *detailed statements of cases, unsuccessfully treated*, placed before the public, to enable medical men of unbiassed judgment to form an opinion as to the legitimate pretensions of this medicine or that medicine, or to the merits of this line of treatment, or that line of treatment.

Until this erroneous system of inviting public attention *to success*, and not to *ill success in practice*, be rectified; until a per contra account of fatal cases, arising from the adoption of a favourite mode of treatment, be faithfully and honestly recorded, and trumpeted forth with the same assiduity as those cases successfully treated; it is mere waste of time to endeavour to form data for comparing the relative value of medicines in the treatment of disease.

[To be continued.]

* This advice is especially needed at the present moment, when it is so desirable to have a candid record of the results obtained in the treatment of cholera.—Ed. Gaz.

ON THE

AMENDMENT OF THE LAW OF LUNACY.

By George Robinson, M.D.

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Notwithstanding the great improvements of late years effected in the supervision of the insane, and in securing their humane and proper treatment when under confinement, it is, I think, pretty generally admitted by persons practically acquainted with the working of the present law of lunacy, that much still remains to be accomplished, in order to ensure to the public, and to this unhappy class of persons, that protection from various and opposite evils which is imperatively demanded, not only by the requirements of justice and humanity, but also by the great and increasing importance of this source of national weakness and humiliation. In expressing my own concurrence in this opinion, I must, however, disclaim all participation in the sweeping censures and indiscriminate, and therefore unjust, attacks made by some writers against every one connected with the administration of the existing law. For in this as in other cases where the public suffer from vicious or defective legislation, much of th t popular indignation which might be more beneficially employed in inducing judicious changes in the law, has not unfrequently been directed against individual proprietors of asylums, and others who may to

the best of their ability have endeavoured to comply with every legal regulation. These considerations, and the possible danger of hastily-conceived and ill-digested plans being forced on the legislature by the benevolent but misapplied zeal of persons anxious for the prevention of future abuses, have induced me to submit to the profession, through the pages of the MEDICAL GAZETTE, the following results of some observation and reflection on this important subject; and for any deficiencies which may be perceived in the few suggestions here made, I beg to prefix by way of apology a candid avowal of the many and vast difficulties which the very nature of mental disease must always oppose to the efforts of the legislator, and a consequent confession of the impossibility of successfully surmounting the whole of those difficulties by the most comprehensive legal enactments, or the greatest administrative talent.

If we set aside for the present questions involving the disposal of the property of lunatics, and also those cases in which the plea of insanity requires to be investigated in connection with criminal offences, we shall find that an efficient law of lunacy resolves itself into four principal heads, viz.—1. the admission of the insane into asylums, or their restraint elsewhere in such a degree as may secure the public and themselves from injury.

2. Their humane and proper treatment when under restraint; by which I mean, due attention to their physical wants and comfort, together with the use of such medical and moral agencies as may tend to promote their recovery.

3. Their liberation from restraint when mental disease is removed.

4. The collection for the public good of such medical and statistical information as may be made available for the future prevention and treatment of insanity. And in endeavouring to form a correct estimate of the present law of lunacy, I shall examine its practical working in reference to each of these leading divisions of the subject.

1. The frequent appeals made to the courts of law on behalf of persons confined in asylums, and the views expressed by influential organs of public opinion in commenting upon some of these cases, sufficiently evince the existence in this country of a feeling of dissatisfaction with the present arrangement for regulating the restraint of persons deemed insane; and an examination of the provisions of the law now in force will, I think, tend to the conviction that this feeling of insecurity on the part of the public is not altogether ungrounded.

In considering this section of my subject, I shall for the present restrict my remarks to those points connected with the admission of supposed lunatics into licensed asylums, reserving for the next branch of the inquiry the investigation of the practical influence of the existing law upon the condition of those insane persons who remain in the custody of their friends.

The legal forms to be observed prior to the admission of a patient into an asylum vary with the rank or pecuniary circumstances of the individual. If a pauper, certificates of insanity are to be produced from the overseer of the poor, from a medical practitioner not being the poor-law medical officer of the district, and either from a magistrate or the clergyman of the parish; whereas, in the case of *private* patients, an application from a relative, supported by the certificates of two medical practitioners, is deemed sufficient evidence of the fact of insanity. In both cases a certificate is also required from the medical officer of the asylum to which the patient may be conveyed. Now, with regard to pauper lunatics, the existing arrangements appear almost sufficient to prevent the confinement of persons whose insanity could be regarded as at all doubtful; for without dwelling on the fact of the interests of the rate-payers, by whom the pauper is maintained, being decidedly opposed to any unnecessary outlay of public money, the pauper enjoys the protection afforded by the certificates of the overseer, and magistrate or clergyman, being required previous to his confinement; whereas no such additional security is extended to the private patient, in whose case alone there can be any great temptation to have recourse to false representations for interested purposes. The admission of this—the most important—class of patients into lunatic asylums is therefore wholly regulated by medical certificates, and on the medical profession is thus cast

all that odium which must necessarily be developed in the numerous cases where family exposures take place, and the conflicting interests and wishes of relatives are aggrieved and thwarted by the legal consequences of a medical certificate. Now were the organization of the medical body complete and satisfactory—were it in the power of the public to discriminate at once between the duly educated licensed practitioner of medicine, and the self-nominated physicians and surgeons who abound in this kingdom—no medical man could object to share any unpopularity which might arise from the faithful discharge by his professional brethren of the duties imposed on them by the law of their country. But with the present confused state and ill-defined boundaries of the medical profession, and with the very imperfect curricula and unequal tests of the existing medical colleges, it becomes, I think, a matter of no slight importance, both as regards the honour of our calling and the interests of the public, that the general and medical qualifications of the persons to whom the law delegates so enormous a power over the liberty and fortunes of their fellow-citizens, should be most rigidly investigated.

I proceed, therefore, to examine the extent to which the present law ensures the possession by the certifying party of those legal and special qualifications which are necessary for the proper discharge of this difficult and delicate trust.

In the form of certificate appended to the Lunacy Act (Vict. 8 and 9, c. 100), the medical man testifying to the insanity of the patient about to be confined is required to declare himself legally qualified to practise as physician, surgeon, or apothecary, as the case may be; but beyond this unsupported formal statement by the individual himself, I am not aware of the law directing any precautions to be observed against the assumption of medical titles by unqualified and ignorant pretenders. We thus, at the very commencement of our inquiry, encounter the *possibility* of a person of sound mind being branded with the stigma of insanity, and subjected to the loss of liberty, and of many of the other pleasures of life, as the legal effects of the fraudulent representations, and,—to view it in the mildest light,—erroneous opinions of two impostors. And I am satisfied that a strict examination of the medical certificates obtained as the legal authority for the admission of private patients into asylums since the Act above referred to came into operation, will show that in many cases one at least of the certifying parties would have been unable to produce a diploma. However astounding this assertion may at first appear, its probable correctness will soon be evident if we reflect that many of this class of persons are in the receipt of large incomes derived from medical practice; that they often enjoy the confidence of circles much above the lowest ranks of life, and are not impossibly regarded by some of our legislators themselves as highly respectable members of society. And as an additional proof of the difficulty now experienced in detecting such impositions, I may refer to the fact of the poor-law authorities, with all their cumbrous and expensive machinery of administration, having been occasionally duped by the false statements and ingenious frauds of soi-disant medical licentiates.

But even were the provisions of the law of lunacy such as to ensure the possession of a diploma by every certifying medical practitioner, the existing arrangement would still be open to certain well founded objections. It might, for instance, be urged that the great majority of medical men have had no opportunities of acquiring a practical knowledge of insanity during their professional studies; and I can, from my own personal experience, speak to the validity of this objection. Now as the law attaches so much weight to a medical opinion as to render the dicta of two medical men decisive of the mental state of any individual, it of course follows that every physician and surgeon is expected to be practically familiar with the peculiarities of mental disease. And here we accordingly meet with another striking inconsistency and defect in the administration of this law; for while insanity has by the medical profession generally, and by the examining bodies themselves, been hitherto considered as a special study and department of practice, the law assumes it to form a constant part of every medical man's

education. And the experience of gentlemen connected with asylums will, I think, support me in the statement that, in consequence of this hiatus in the medical curricula, errors of diagnosis in mental disorders are by no means of unfrequent occurrence, even among otherwise experienced practitioners. I refer not only to the comparatively harmless error of mistaking delirium tremens for insanity, but to the more serious cases in which acute mania—generally a disease of debility, and its consequence, irritability—having been actively treated on the old antiphlogistic plan as phrenitis, the unhappy patients, if they have survived they process of depletion, have sunk into a state of hopeless dementia.

I have lastly to notice a third possible objection to the present lax mode of obtaining medical certificates, and in doing so trust that I shall not be misunderstood by the profession. The power of determining for legal purposes the mental state of a fellow being, entailing as it does personal and civil consequences of the highest importance to that individual, partakes of the nature of a magisterial act, and as such demands a guarantee, not only of the intellectual sufficiency, but also of the moral fitness of the person to whom that trust is delegated by, and on behalf of, the public. Am I, therefore, wrong in believing that in addition to the production of a diploma, and of proof of a practical or special knowledge of insanity, the certifying medical practitioner should also adduce satisfactory evidence of his possession of the necessary moral qualifications for such an office? No one can entertain a more sincere admiration for the noble science of medicine than I have ever cherished; nor do I feel less pride in the high character which the medical profession as a body has ever maintained. But those very feelings of solicitude for the honour of the profession, require me not to pass altogether unnoticed the possibility of an individual member being occasionally found lost to a sense of propriety and rectitude. Such melancholy cases will necessarily occur at intervals among every numerous class of men. And if the medical, in common with the military, the legal, and the clerical professions, has at times furnished such illustrations of human weakness, the indisputable fact that hundreds of intelligent men, on whose education large sums of money, and the best years of life have been freely bestowed, are content voluntarily to endure comparative poverty rather than share in the ill-gotten spoils gleaned by empiricism from the credulity of the public, will ever sufficiently demonstrate the general elevation of the medical character, and its superiority to mere mercenary motives.

From this review of that part of the law of lunacy which relates to the mode of determining the insanity of persons about to be confined in asylums, I therefore venture to conclude—

1. That the existing law does not afford a sufficient guarantee that the persons certifying to the fact of lunacy are *legally qualified* medical practitioners.

2. That it does not ensure on the part of the certifying physician or surgeon a special or familiar knowledge of mental disease.

3. That it also fails to secure the public against the possibility of medical certificates being signed by persons morally disqualified for the charge of such a trust.

It may be said that the additional certificate required from the medical officer of the asylum to which the patient may have been conveyed, will entirely obviate any evils which might arise from these defects in the law. But there are several circumstances which militate against the possibility of this officer at once acquiring a correct and satisfactory knowledge of the state of mind of every person admitted. It often hapens that the discovery of the nature of their residence renders the new comers, even when decidedly insane, extremely reserved, and suspicious of every one connected with the asylum, so that it is almost impossible to extract from conversation with the patients themselves any distinct evidence of mental derangement. Even a resident medical officer is therefore often compelled for some time to rely almost exclusively on the information contained in the statement of the person on whose application the patient was admitted, and in the accompanying certificates of the two medical practitioners. The peculiarities of certain forms of insanity also

tend to increase the difficulty of invariably determining in a given time the mental state of a suspected lunatic.

2. We have in the next place to consider the efficiency of the supervision now exercised over insane persons resident in duly recognised asylums, and also the extent to which the law provides for the humane treatment of those lunatics who remain in the custody of their friends or relatives.

For accomplishing the first-mentioned object a certain number of visits are annually paid to each asylum by the Commissioners in Lunacy, aided in the country districts by a Committee of Magistrates in each county, who are also accompanied by a medical practitioner. The London asylums appear to be almost exclusively under the jurisdiction of the Lunacy Commissioners, who are bound to visit each licensed house at least four times in the year. The country asylums are annually visited twice by the Commissioners, and twice by two or more magistrates and their medical adviser. When any extraordinary incidents take place in an asylum, or any distinct changes are made in reference to patients confined in it, a minute investigation of course follows. But, under ordinary circumstances, these visitations in the case of private patients do not seem to embrace any further inquiries than those relating to the physical wants and comforts of the inmates, and to the due observance of the formalities of the law. And as the maintenance of insane persons in asylums, when defrayed out of private resources, is open to general competition—the style of living, &c., varying with the rates of payment—it does not appear that the official visitors can at present do more than enforce attention to these points.

If in accordance with the general opinion of the public, it be assumed that abuses do occasionally occur in licensed asylums, notwithstanding the legal regulations and official inspections to which those establishments are subjected, with much more reason are we bound to concede the possibility of still greater enormities being committed in the treatment of those insane and imbecile persons over whom the law in its present state exercises no protecting power. To render this generally intelligible, it is necessary to explain that the existing law of lunacy, with its administrative staff of Commissioners, Committees of Magistrates, &c., applies only to asylums or houses licensed for the reception of two or more lunatics. The numerous isolated cases of lunacy and idiotcy, which are every where met with under the charge of friends and relatives, or persons to whom they have been assigned by the latter, are thus wholly excluded from the operation of the present law of lunacy. The authorities charged with the administration of that law have consequently no means of ascertaining the number of such cases of lunacy which exist in this country; nor are they cognizant of the grounds on which, or the persons by whom, these alleged lunatics have been pronounced insane; nor do they exercise any beneficial control over the treatment of the helpless beings who are thus placed unreservedly in the power of their relatives.

The injurious effects of this imperfect legislation may be more readily conceived than demonstrated. It cannot, however, be denied that the obscurity which now prevails respecting the number and history of these cases must tend to vitiate and lessen the value of all the statistical inquiries hitherto made into the subject of insanity. It must also be admitted as possible, that from base and interested motives a person of sound mind may by an unnatural relative be represented to the public as insane; and on this plea be denied liberty, and with it every gratification of life; while it is at the same time rendered but too probable that in some cases this secret detention of lunatics by their relatives is accompanied with the most barbarous and cruel treatment. In confirmation of this last statement, I may refer to the cases every now and then detailed in the newspapers, where the inhabitants of a district often in or near a populous town have been horrified by the discovery of some poor lunatic who had for years been confined by relatives in a remote cellar or attic, and there allowed to drag on a miserable and loathsome existence. I have read of many such cases, and though I cannot at present dwell on them more fully, in consequence of not having preserved the requisite memoranda, the following instance of the wanton

cruelty occasionally exercised towards lunatics by their relatives, which fell under my own personal observation, will surely suffice to prove the necessity for extending some legal protection to those unhappy beings who are now left entirely at the mercy of their friends.

On the 26th Nov. 1846, N. W., aged 40, was brought to the Dunston Lodge Asylum, from a wild and remote part of Westmorland. His wrists and ankles were heavily fettered, and an iron chain connected these fetters, so as to retain him in a stooping posture. On inquiry it appeared that these shackles had been imposed on him by order of his sisters, under whose care he had remained since the commencement of his disorder, twelve years previously. These relatives had kept him chained to a staple in the floor of an outbuilding, naked, with the exception of a loose canvass rag, incapable, from his fetters, of walking or even standing erect, and with no other bed than a few leaves and a little dirty straw. From this miserable situation he was rescued by a magistrate's order, and removed by force from his sisters' custody. It seemed that he was entitled to a share in some property, and selfish feelings connected with this circumstance may perhaps have prompted his unnatural relatives to retain him in their own hands. On admission he was found to be in an advanced stage of dementia, but perfectly harmless. His bodily health, notwithstanding the ill treatment which he had received, appeared tolerably good, but from the constrained position in which he had been held by the fetters, his legs were permanently flexed, so as to render him incapable of placing the heels on the ground. His fetters had evidently not been unfastened for years, and could only be removed by cutting through the iron, as the screws would no longer act. When thus set at liberty he was unable to stand without support, in consequence of the contraction of the ham-string muscles; and even when seated he had a constant tendency to slip off the chair and resume his habitual crouching attitude on the floor.

The subsequent history of this case appeared in the Medical Gazette (p. 170), having been communicated by Mr. Eccleston, to the Newcastle Pathological Society. But as I happened to be present when this unfortunate man arrived at the asylum, and thus became an eye-witness of his fettered, half-naked condition, I am enabled to bear personal testimony to the cruel treatment which he had previously received.

3. The arrangements now adopted for the discharge from asylums of persons presumed to have recovered from their insanity, constitute the next point for examination. An efficient law of lunacy has here to guard against two opposite evils—viz. 1. The unnecessary detention of persons who may have regained their mental powers; and 2. The liberation of lunatics whose insanity may render them liable to injure themselves or others. And there is every reason to believe, that under the existing law both these evils do occasionally occur, the latter perhaps the most frequently. For facts exemplifying the *possible* recurrence at intervals of the first-mentioned abuse, I refer to the evidence elicited in the various trials and investigations which have recently excited so much interest. But as the injurious consequences induced by the existence of the opposite evil seem to be less familiar to lunacy law reformers, and as it is that which has chiefly fallen under my own notice, I shall adduce one or two illustrations of the insufficiency of the present law in this particular. The first case which I shall mention has been published at length by D. C. Lockhart Robertson, in the Edinburgh Monthly Journal of Medical Science, No. 172 (July 1847): it is that of William Stalker, who, on attempting to poison his farm-servants, by administering to them arsenic, was placed by his relations in an asylum as an insane person, but after remaining there a few months was by the same parties removed and set at liberty, in complete opposition to the advice of the medical officer and superintendent of the asylum, who vainly warned the patient's wife and friends of their insecurity. When thus liberated, the man appeared to ordinary observers rational and harmless, and continued so for a few months, when he one day suddenly and without provocation murdered his wife by strangulation. He was subsequently tried for the capital offence, and acquitted on the ground of insanity. In another case, the patient, then the subject of intense

melancholia, with a strong suicidal tendency, was in like manner removed by his friends from an asylum, and being by them allowed a greater degree of liberty to within a few days of this liberation, committed suicide by throwing himself under a railway train. In a very similar case, the patient, who had only a few days previously attempted suicide by cutting his throat, was removed by his friends from the asylum with the wound still unhealed; but his suicidal disposition was so soon manifested, that they gladly replaced him in the asylum within a few hours after his discharge. Cases of this description must in the present state of the law be extremely numerous, and the proprietors of private asylums are certainly placed in no very enviable position when dealing with them; for if they hesitate to liberate the patient, they are instantly assumed to be actuated solely by selfish motives, while in setting free persons of known homicidal or suicidal tendencies they must feel that they are imperfectly discharging the duty they owe to society. But unpleasant as these cases may be, there are others perhaps of still more frequent occurrence, the settlement of which is attended with even greater difficulties; I mean those in which the relatives of the patient are divided in their opinions as to the state of his mind, and as to the course to be adopted with reference to the disposal of his person. Each relative, fortified by certificates from medical practitioners (who, as generally happens, entertain directly opposite opinions on the case), and armed with the legal terrors of the law, in turn assails the proprietor of the asylum; the one party urging him to deliver up, the other to retain the charge of the patient. An efficient law would here surely provide on or near the spot some impartial and competent person or persons, whose decision should for the time be final; but no such effective and economical provision for the settlement of these disputes now exists. And unless the contending parties choose to incur the expense and risk of a Chancery writ, the matter may remain undecided, and the unseemly strife be maintained for an unlimited period.

For these various reasons, then, and inasmuch as the residence of the commissioners at a distance from the majority of the asylums under their charge, and the long intervals which necessarily elapse between their visits, render it impossible for those officers to possess that personal knowledge of the history and mental condition of each patient which is requisite both for the exercise of an efficient superintendence of the discharges from those asylums, and for the satisfactory determination of the various questions constantly raised with reference to the state of mind of particular patients confined in them: it is, I conceive, evident that the arrangements now in force are in this respect also greatly defective.

4. I have lastly to estimate the extent to which the present law with its administrative machinery furnishes or ensures a correct supply of that statistical information by which it is hoped that insanity, like other obscure and important subjects, will in the course of time, and by a process of cumulative experience, ultimately be found to admit of a certain degree of elucidation. The statistics of insanity possess a triple interest,—to the statesman, the moral philosopher, and the physician. The mere statement of the number of lunatics in this country, counting as they do by tens of thousands, the vast amount of bodily labour,—not to speak of the mental energies,—thus rendered unproductive, and the great cost of their maintenance, are facts sufficiently striking to arrest the attention of any statesman, even were he unmindful of the metaphysical relations existing between certain forms of mental disorder, and those peculiarities of thought and sentiment, which, under the milder appellations of enthusiasm and fanaticism, have wrought such wondrous changes in the fortunes of nations and in the history of mankind. The causes of insanity, comprehending as they do the loftiest aspirations and the most grovelling vices of the human soul, must ever command the interest of metaphysicians and divines; while the physician whose duty it is to trace these mysterious affections of the mind to the physical disorders which originate or maintain them, and whose efforts to cure insanity are too often rendered nugatory by his ignorance not only of the precise nature but also of the actual seat of the accompanying physical disorder, must evidently long for the attainment of that compara-

tively precise knowledge which may at length enable him to grapple more effectually with this awful malady.

Under these circumstances, then, it may reasonably be expected that every thing which medical science can suggest, and which the resources of a great nation can supply, will have been diligently directed to the investigation of every point connected with the pathology, therapeutics, and hygiene of mental diseases, and that unceasing efforts will thus have been made to lay bare the roots of this gigantic national evil, to trace insanity to its causes, to diffuse among the public the fullest information as to the nature and relative influence of those causes, with the view of arresting their future action, and to ascertain by carefully preserved records of the diversified experience of qualified observers, the comparative value of the various plans employed for the restoration of mental health. These, indeed, embrace but a few of those questions on which the attention of persons charged with the superintendence of insanity on the part of the public should obviously be fixed. Their careful prosecution, however, by enlightening both the medical profession and the public on this ill-understood and hitherto imperfectly investigated subject, could not fail materially to advance the two great objects of improving the treatment and checking the growth of mental disease. In expressing an opinion that the existing arrangements do not sufficiently supply these reasonable demands for information, I may at first appear to censure gentlemen for whom individually I entertain very great respect. But as the chief evils which occur under the present law of lunacy are clearly referable to the defects in the original constitution of that law, it would be in the highest degree unjust to consider the commissioners as personally responsible for all the defects or abuses which may have been witnessed during its operation. I have already mentioned one obstacle in the way of a complete statistical return of the state of lunacy in this country, occasioned by the framers of the present law ignoring the existence of the numerous lunatics who remain under the care of relations. Another great impediment to the acquisition of a correct statistical knowledge of insanity, arises from the careless and imperfect manner in which the printed forms of inquiry are filled up by persons authorizing the confinement of lunatics in asylums. Nor can I, in connection with this part of the subject, avoid a brief comment on the incongruity which prevails in the composition of the Board of Lunacy, and the apparently total oblivion of the peculiar and distinctive functions of law and medicine by which its proceedings are characterized. In these respects it is certainly supported by the recent legislation on matters affecting the public health, in which the duties of the civil engineer and the physician are similarly confounded. But in neither case do I anticipate that the experiment will prove very satisfactory. These errors on the part of our statesmen perhaps chiefly arise from the extraordinary ignorance of the constitution of medical science, properly so called, which prevails even among men of high general attainments; and this in turn would seem to be almost a natural consequence of the neglect of the experimental sciences in the education of the higher classes in this country; while, from the obscurity which still invests many of its branches, and from its comparatively modern establishment as a positive science, Medicine, even in its latest applications to the improvement of the mental and bodily health of the community, continues peculiarly exposed to aggression from all quarters. The liability of medicine to favour the pretensions of persons ill qualified in this particular, however able in other respects, has often been observed by men whose opinion on the subject must certainly have been disinterested. Bacon, for instance, who was a statesman as well as a philosopher, thus comments on the assumption of medical duties by other than duly educated men:—"Ars autem tam conjecturalis cum sit, locum ampliorem dedit non solum errori, verum etiam imposturæ. Si quidem omnes aliæ propemodum artes et scientiæ virtute suâ et functione, non successu aut opere, judicantur. Advocatum ipsa agendi et dicendi facultas, non exitus causæ, commendat; gubernator navis clavi tenendi peritiâ, non expeditionis fortunâ se probat. At medicus, et fortasse politicus, vix habent actiones aliquas proprias quibus specimen artis et virtutis suæ liquido exhibeant; sed ab

eventu præcipue honorem aut dedecus reportant, iniquissimo prorsus judicio. Quotus enim quisque novit, ægroto mortuo aut restituto, item republicâ stante vel labante, utrum sit res casûs an consilii? Fit itaque sæpissime ut impostor palmam, virtus censuram referat. Quin ea est hominum infirmitas et credulitas, ut sæpenumero agyrtam aut sagam docto medico præponunt."

And, to return to the administration of the law of lunacy, I must confess my inability to perceive any important public advantages arising from the appointment of gentlemen ignorant of the structure, functions, and disorders of the human body, to an office which requires in its possessors an ability not only to scrutinize the medical treatment of the numerous lunatics under their care, and to determine satisfactorily questions connected with their mental state, but also to direct medico-statistical inquiries into the general subject of insanity, and to indicate, when necessary, the particular remedies which may have been approved by a just experience. The authorities of the law will necessarily take part in any deliberations respecting the principles by which an improved Lunacy Act should be regulated. Let the legal profession, by duly appointed members, also possess exclusively the guardianship and disposal of the *property* of lunatics; but let all questions connected with the *persons* of the insane, including the superintendence of their physical wants and comforts, and the determination of their mental state, be left in the hands of persons qualified by education and experience for the efficient discharge of these important duties.

In the preceding review of the present law of lunacy, I have endeavoured to restrict myself to the consideration of its practical value as a measure designed both for the protection of the insane and the benefit of the public in all matters relating to mental disease. I have thus avoided what could not in the present state of our knowledge have been otherwise than a tedious, and perhaps unsatisfactory, discussion of the principles on which this department of jurisprudence should be based. The natural difficulties which oppose the establishment of any definite rules for the guidance of legislators and medical practitioners in the discharge of their duties towards the insane have, moreover, of late been greatly augmented by the conflicting opinions ascribed to eminent authorities in law and medicine; and though I see no reason to despair of these disputed questions being finally settled in the fullest accordance with the rights of humanity, and with the strictest regard to the interests of individuals, it does appear to me that this desirable consummation can only be effected by a very prolonged and comprehensive study of the numerous and complicated relations of insanity. Until these principles are thus defined, the determination of all questions affecting persons whose insanity is at all doubtful must evidently remain with individual practitioners of medicine. And all that a law of lunacy can at present do, in which, however, it should not fail, is to afford the public the security of knowing that in no instance shall it be possible for a person to be deprived of liberty, or otherwise treated as a lunatic, without having first been visited and declared insane by at least one impartial experienced and responsible public officer.

A few brief suggestions for the prevention, under any future act, of the evils above noticed, will conclude this necessarily imperfect examination of the subject; nor can I better introduce the results of my own reflection than by here presenting a short extract from the writings of the late Dr. George M. Burrows, who is well known to have devoted considerable attention to the jurisprudence of insanity:—"I would suggest," wrote Dr. Burrows, "that there be two distinct sets of officers for conducting the executive of any legislative enactment for the regulation of lunatics,—*Commissioners* and *District Inspectors*. The commissioners to consist of three or five; all of whom, or, if civilians be introduced, at least a majority, should be members of the College of Physicians. England and Wales to be divided into several (say 8) districts. Each to have two or three local inspectors, one of whom should act as secretary, to note down, register, and communicate with the Registrar of the Commissioner. The district inspectors should be subordinate to the commissioners: they should examine

every licensed asylum at least four times a year, and at uncertain periods, and also whenever desired by superior authorities; likewise inspect all houses intended to be opened as asylums; report regularly their observations to the commissioners, &c.

"There are many palpable and insurmountable objections to the scheme of having eight commissioners to grant licenses, visit, &c. The enormous expense of it is a material one. The plan I have sketched will be infinitely more economical, and yet much more efficient."—(*Inquiry into certain Errors relative to Insanity*, pp. 247 50.)

In the leading features of this recommendation I fully concur; nor do I hesitate to ascribe many of the imperfections observed in the working of the present law to the neglect of the caution contained in the latter part of this extract, and to the consequent discharge by the metropolitan commissioners of duties which would have been more economically and perhaps as efficiently performed by district inspectors.

I have previously intimated a conviction that the public interests would be promoted by the separation, as far as possible, of the medical from the legal functions of the commissioners in lunacy, and by the assignment of the care of the persons of lunatics to the former, and the guardianship of their property to the latter department of the board. It must also be obvious that the office of registrar or secretary to a Board of Lunacy will be most appropriately filled by a medical practitioner; for though any man of ordinary education may register medical facts, no one but a person fully cognizant of the peculiar sources of error to which they are exposed will be able to use them with much advantage.

As regards the minor details connected with the administration of an amended lunacy act, I shall merely indicate one or two provisions which might tend to obviate the evils now liable to exist.

1. In the case of private patients about to be confined in asylums, I would propose that in addition to the certificate of the medical practitioner who might have been in attendance, a voucher of the fact of insanity, together with a statement of the reasons for adopting that conclusion, should be obtained from the district inspector, or in his absence from a specially qualified practitioner, who might be termed a licentiate in lunacy. The power of granting this license might either be left in the hands of the medical commissioners in lunacy, or remain with any of the medical examining boards. By thus restricting the power of granting the second certificate of insanity to those medical men who possessed a practical knowledge of mental disease, an inducement would be held out to future students of medicine to avail themselves of the opportunities now afforded by the opening of several large asylums for the clinical study of insanity, while the medical colleges would also probably be led to direct more attention to this subject in their examinations and curricula. There might also be some advantage in requiring each application for the admission of a private patient to be counter-signed by a magistrate or clergyman previously to its having legal effect. This precaution would not of course be calculated to cast any additional light upon the mental state of the patient, but simply to guarantee as far as possible the respectability of character of the person making the application.

2. In cases where patients of any class have been admitted into an asylum as "dangerous" lunatics, they should not be discharged without a special certificate from the medical officer of the asylum or the district inspector, and to the latter all disputed cases should be referred.

3. When from any mental disorder it may become necessary to confine any adult in a private house for more than a certain period (say six weeks), notice of the fact should at the expiration of that period be sent to the district inspector, whose duty it should be to visit the patient at the earliest opportunity, for the purpose of examining his or her mental state. And having satisfied himself of the patient's insanity, it should further be the duty of the district inspector to enter the case in his register, and subsequently visit the patient at least twice in each year, reporting to the commissioners after each visit any alterations in the mental condition of the person confined, or

any indications of cruelty or neglect which may have fallen under his observation.

It is not to be expected that the adoption of these or any other improvements will fully satisfy all the numerous persons whose conflicting interests are liable to be affected by any changes in the law of lunacy. But in offering the preceding statements and suggestions for the consideration of gentlemen perhaps better qualified than myself to devise the means of removing the defects and difficulties which still surround the law of insanity, I can certainly disclaim any personal or pecuniary bias. Nor am I conscious of having been actuated in their preparation by any other motive than a sincere desire to reconcile and identify the interests of my profession with those of the public and of humanity.

PUERPERAL CONVULSIONS TREATED WITH CHLOROFORM. BY G. J. HARDING, M.D. HEALTH OFFICER, ST. JOHN, N. B.

Mrs. P., aged 43, within six months (?) of the period of her confinement, and her first child, was found in the morning lying on the floor insensible, in a fit, when her husband arrived to breakfast, and the paroxysms continued every hour until evening, when I saw her in the country, where she resides. On visiting her she was speechless and insensible, with strong convulsions every half hour. At that time no appearance of labour, and in this state she remained during the night, being frequently convulsed, having been freely bled, and had a large dose of calomel and a turpentine enema, with cold applications to the head during the night, without any beneficial effects. In the morning, at 9 A.M., the labour commenced, and a strong fit, during which I gave her the chloroform as an antispasmodic, and she was immediately relieved from the convulsions, and continued so for four hours, the labour pains continuing every five or ten minutes, and were assisted with ergot. On having another attack of the spasms at 1 P.M., I gave the chloroform again, which appeared immediately to check it, and she was not attacked again with any further convulsions; and at 4 P.M. I delivered her. In twenty-four hours afterwards she spoke to her husband in a rational manner, and has since recovered. I feel satisfied that the chloroform had a beneficial effect in this case in removing the convulsions, as they would not have otherwise subsided until the woman was delivered. —*Boston Medical Journal.*

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 14, 1849.

The practice of intramural interments has recently attracted the attention of the public in reference to the disposal of the bodies of those who are daily cut off by the malignant cholera. We quite agree in the view taken by some of our contemporaries, that the facts brought to light during the prevalence of the fatal epidemic which is now amongst us, should suffice to abolish for ever a custom which cannot be maintained without a violation of common decency, and which is admitted by all who are not interested in its maintenance, to be highly prejudicial to the health of the living. The graveyards of London are not fitted to receive the bodies of those who die in ordinary times: it is therefore clear that, when by the prevalence of a fatal epidemic, the weekly number of dead becomes increased twofold or three-fold at a season of the year when the process of putrefaction takes place with more than ordinary rapidity, these receptacles must necessarily become foci of pestilence, and add to the general mortality. Our readers may not be aware of the great number of deaths which occurred in London during the *month of August*. They amounted, according to the registration returns, to no fewer than 11,358, and of this number 4914 were victims of cholera! The total average deaths at this season of the year, and for the same period, would have been only 5040! It therefore appears that room must have been provided in the London graveyards, in some way or other, for about 2500 bodies weekly. The extramural cemetery interments are, comparatively speaking, so few, that they need not be

taken into consideration. This large number of dead could have found a resting place only by many bodies being piled in one grave, or by the displacement of half decomposed bodies from other graves. The known area of the London burial grounds renders it impossible that they can have been interred with ordinary decency, or without prejudice to the health of those who have the misfortune to live in the vicinity. Some, it is true, have been recently closed under the orders of the Board of Health, but this makes the case worse for those persons who live near graveyards which are still kept open.

From what we have stated of the number of dead bodies for which interment must now be provided weekly, it is not surprising that such scenes as those described in the subjoined extracts should frequently present themselves. The first paragraph refers to what took place in open daylight, in the graveyard of St. Anne's, Blackfriars:—

"Upon the retirement of some persons who had just witnessed the interment of a friend, the gravedigger dragged from behind a tombstone part of a mutilated body (from the hips downwards) to the grave, which had a few minutes previously received its tenant, and thrust it in with great violence, without a covering; he then descended into the grave, which was about 12 feet deep, and dismembered the limbs with a spade, and placed them beside the coffin, over which he sprinkled a small quantity of earth. This grave has been left open for upwards of three weeks for the reception of bodies, having only a slight covering of earth and boards."

In another churchyard in the same district, we are informed that—

"Usually the business of the day begins about 10 o'clock, when are to be seen two or three groups of persons in the churchyard to choose a place to deposit the remains of their departed friends. *The gravediggers are there with huge iron instruments*, some 10 or 12 feet in length, in the shape of an immense auger. A spot is chosen; this instrument is thrust into the earth to see if there be room—but it invariably comes in contact with a coffin; *heavy thrusts are then made, and if by bearing his whole weight upon the instrument the gravedigger can force it through, it is considered sufficiently decayed, and the grave is dug;* generally three or four of these borings for the dead have to be made before sufficient space is found."

A medical practitioner thus addresses Lord Carlisle in reference to the churchyard of St. Saviour's, Southwark:—

"I refer to your Lordship, as chairman of the Board of Health, to suppress a nuisance beneath the windows of my house fraught with danger to my family, and the community at large. Within 12 feet of my sitting-room lies St. Saviour's Churchyard, in which 40 people have been buried within the last 31 days, and, at the time I write, four graves are now open. It is my daily lot to see the earth yawn for the dead, to witness it crack and sink around each newly occupied grave, and to feel, by a physical depression, the potent effects of the consequent malaria. My neighbours, moreover, die daily around me of cholera, evidencing the virulence of this local mischief."

It would be easy to multiply these quotations, but we take the fact as admitted, and the only question now is how to abate the nuisance.

It is with regret we perceive that the burial of the dead in the vaults of churches has recently found a defender in the vicar of the parish of St. Bride. This gentleman, who obviously has a pecuniary interest in the maintenance of this injurious practice, stated at a recent meeting of the Vestry, that a leaden coffin was a sufficient protection,—that there was not the slightest smell in the vaults where these coffins were deposited, and that he would have no hesitation in passing a night in them; "consequently the public

health could not be endangered by burying in them." It is not worth while to expose the ignorance which such a statement displays. It is generally admitted by all those who do not live by vault-fees, that the thin leaden coffins of modern manufacture afford only a temporary means of confining the effluvia evolved from a putrefying corpse. The slightest crack produced by pressure, and which must occur sooner or later, will allow of the escape of these effluvia in sufficient quantity to prove noxious to health ; and we have heard of some of these vaults in which, when first opened, the air was found so foul, that a lighted candle was very speedily extinguished. We have no wish that the vicar of St. Bride's should be made the victim of his own theory ; but the vaults of his church must differ greatly from those of other churches, if they are capable of affording a safe and comfortable night's accommodation. We are more inclined to adopt the view of another writer who has not any direct interest in the support of this gross and antiquated abuse. He says, in reference to the vicar's statement of the alleged salubrity of the St. Bride's vaults—

"As this statement may possibly induce other churches to carry on, or renew where already given up, the disgusting custom of placing corpses in the vaults, the most unqualified contradiction should at once be given to the perfect harmlessness because leaden coffins only are permitted. It is a well known and easily ascertained fact that these very coffins are incapable of confining the gases generated by the decomposition of the bodies within them; and to allow the escape of the mephitic vapour they are frequently 'tapped,' when it can be done, to prevent bursting, and where such a probability is clearly indicated. When they are not watched the bursting of leaden coffins appears to be not unfrequent. Indeed, so quickly accumulating and so powerful in expansion are these gases, that in cases of rapid decomposition such instances occur with leaden coffins in private houses before entombment. A gentleman opposed to the burial of the dead in the vaults of the church alluded to, declared his belief that more injurious results arose from opening one of these than opening a grave. His apprehensions were fully justified. The living who inhale the fœtid exhalations of the dead deposited in vaults breathe a concentrated miasma, which, when it proceeds from leaden coffins, is of an intensely poisonous nature. Where these coffins are not watched and tapped in time, the consequences are obvious. Whence proceed the frequent faintings, the sensation of nausea, headache, languor, during and after divine service? Whence proceed many fevers, more especially of a putrid character, and caught people know not how? From the disgusting and disgraceful custom of burial within, under, or by the walls of churches and chapels. The myriads of motes we see dancing in the sunbeams which dart before our eyes are here, it is no mere imagination to conceive, atoms impregnated with the deleterious particles of mortality—so much 'death dust' rising from the matting of the aisles, the cushions of our pews, and other lodgments. This, I repeat, is no mere imagination, for disease and death have been clearly proved to have seized on those whose employment it has been to cleanse from one Sabbath to another the churches and chapels where vault-burials are permitted; these burials converting the temple of God into a charnel-house."

If this custom of burying in churches be considered irrespective of its pecuniary bearings, we shall have cause to wonder that it has not long since been abolished. Is there any enthusiastic vicar who would select for his residence a house, the cellars of which were filled with leaden coffins containing the decomposing remains of mortality spread over a period of forty years? Under these circumstances it would, we think, be speedily found that a leaden coffin was no protection. For the same reason, although persons do not reside in churches, yet the health of those who frequent them must *pro tanto*

suffer. At any rate, their escape from the effects of the noxious effluvia would only be one of those accidents upon which we have no right to speculate.

It has frequently struck us that the Legislature has given an improper encouragement to this practice in the Act for altering the law regarding the dissection of the bodies of executed criminals. It is professedly an important object to render a prison healthy by pure air, free ventilation, and good drainage; and yet on the alteration of the law above mentioned, it was ordered that every criminal who was executed should be *buried within the precincts of the prison*, thereby leading to the accumulation of the corpses of the dead in the midst of the living. It is fortunate that executions are now comparatively rare, or the practice of interring the dead within the precincts of the prison would necessarily have a most injurious effect upon the health of the inmates.

Our readers must have observed the supineness with which the Government has for some years treated the question of the entire abolition of intramural interments. Mr. Mackinnon has yearly introduced the measure in a neat speech, and has then as regularly withdrawn it. During the last session there was some prospect that the noble lay-chairman of the Board of Health would have exerted himself to cause a temporary act to be passed for facilitating the practice of extramural burials; but like other magnificent visions of sanitary legislation, this great public question gave place to others of a mere political character. The fatal experience which we have now acquired by the invasion of the cholera, has shown that such a measure should *not* have been postponed. The weekly deaths in London are more than doubled, and there is not sufficient space for the safe disposal of the bodies of the dead. The orders of the Board of Health can have but little effect in abating this monster-nuisance, because nothing short of the entire prohibition of the practice will meet the evil in a way to benefit the public health.

Every one asks why is such a system maintained? The answer to this question will be found in the fact—1. That many clergymen derive large emoluments from burial fees. 2. The expense of extramural interment in the transport of the dead would be heavier than the poor could bear. 3. It would materially add to the expenses of some parishes for the funerals of paupers. 4. It would deprive the wealthy of the privilege of interment in the vaults of their ancestors.

The only real obstacle which the Legislature has to meet is that referred to under 2; namely, the expense which would be thrown on the poor by rendering interments in remote cemeteries compulsory. Of the others we think nothing, as the health of the public is of far greater importance than temporary damage to private interests. The existence of the evil is undeniable: therefore it is the duty of the Government to discover and apply a remedy. As our contemporary the *Times* justly remarks:—

"The invariable fate of private measures leaves on the Government the responsibility of action. The health of millions is too serious a matter to be risked on the firmness of a Mackinnon or even on the passive sympathies of the Legislature. We must not have a bill introduced in an able speech, hailed with a general unanimity, postponed for three months, scoffed at by an Osborne, and then thrown over to another year. Sir George Grey is the only man in a position to carry the measure, and he ought to undertake it. Between this and next February there is ample time to draw up a bill. It is a matter of life and death to those who are compelled to live in this city, and in its most crowded regions. No half

measure will suffice. Prohibit burials altogether except in cemeteries remote from populous districts."

We shall only remark, in conclusion, that the sad experience derived from the fatal ravages of cholera within the last few weeks, shows that the prohibition of intramural interments involves considerations of too serious a nature to allow it to be made an amateur measure. It should be at once taken up by the Government as a most necessary step in sanitary legislation.

It is with satisfaction we perceive, since these remarks were written, that upon the recommendation of Dr. Milroy and Mr. Grainger, the General Board of Health have ordered the closure of the graveyard in Portugal Street, Lincoln's Inn Fields, as well as those of St. Ann's Blackfriars, St. Andrew's Holborn, Christ Church Westminster, St. Saviour's Southwark, St. Botolph's Bishopsgate, St. Thomas's Golden Lane, St. Luke's, the Spafields burial ground, and that of the Chapel in Tottenham Court Road. This is a good beginning, as the localities mentioned were notoriously unfitted for the reception of the dead.

In the mystery which overhangs the production and diffusion of Cholera, any hypothesis which carries with it even a small degree of probability is deserving of our consideration. We elsewhere* reprint from a contemporary journal a short paper by Mr. Robert Hunt, on the Probable Causes in Operation to produce Pestilential Cholera. The hypothesis has the merit of great scientific ingenuity: we cannot call it a theory, for the grounds upon which it is based are open to question. It is assumed that the atmosphere has less than its normal proportion of electricity, and that the great oxidizing principle, *ozone*, discovered by Schönbein, is in like manner deficient, the proportion of this being, it is alleged, in a direct ratio to the electrical intensity of the atmosphere. Animal and vegetable matter in a state of decomposition, including the effluvia of drains and sewers, as well as the exhalations of animals, may produce and diffuse through the atmosphere an organic poison capable, when respired or otherwise taken into the system, of producing an attack of cholera. Under ordinary circumstances this poison is not produced, because it is assumed that the ozone naturally existing in the atmosphere oxidizes and destroys it in the nascent state. We may have the foul effluvium which forms the vehicle, but not the choleraic miasm, the existence of which is presumed to be incompatible with the presence of a sufficiency of ozone. The choleraic poison bears, therefore, to animal effluvia the same relation which the vapour of prussic acid bears to that of the essential oil of almonds. The vapour of the oil may conceal that of the acid, and we may remove the poison by chemical agency without necessarily destroying the vehicle.

This chemical hypothesis of the origin of cholera assumes that the choleraic poison would always exist among and around us as a constituent of the air we breathe, but for the decomposing agency of ozone, which is thus supposed to be an atmospheric antidote provided according to natural laws. When in normal proportion it either acts on animal effluvia by forming other and innocent compounds, and thus preventing the production of the cholera-poison, or it oxidizes and destroys this poison as rapidly as it is formed. The deficiency of ozone is really, therefore, on this view, the cause of cholera, just as its excess in the

* Page 473.

atmosphere, has been assumed to be the cause of influenza.

This hypothesis would account for the local origin of cholera by the assumed local deficiency of ozone; yet why this principle should thus become progressively and successively deficient in the vast tracts of country extending from Central Asia to the shores of the Atlantic, it leaves wholly unexplained. Any hypothesis which professes to account for the production of cholera should also account for its progress; and we do not think that this view of the action of ozone can afford any explanation of the very uncertain and irregular manner in which cities, towns, and districts, have been visited by this malignant disease. Ozone is a product of chemical action as well as of electrical agency; and Mr. Hunt ascribes the escape of Birmingham from the ravages of cholera to the metallic manufactures around it! Manchester, Merthyr Tydvil, and Glasgow, have not escaped, and yet there is as much chemical agency at work in these localities as in Birmingham.

Among the questions which are open to discussion before this hypothesis can be admitted, are these:—Is it clearly proved that the electrical intensity of the atmosphere has been really deficient during the prevalence of cholera? We know of no satisfactory observations on this point in England; and the only respectable continental authority who has supported this view is M. Quételet, of Brussels, who states that he found it last January to be one-half below its ordinary intensity. Has not this diminution existed in former years without the production of cholera? It may be, after all, that the diminution, if it exist, is a mere coincidence, and the proof of the contrary rests with those who work the fact into a theory. Admitting the diminution of electricity, has this been universal? Has it been noted by a Faraday, or any good authority, to keep pace *pari passu* with the diffusion of cholera in this metropolis? Is it proved that ozone has been really deficient? The ordinary method of detecting it, by exposing to the atmosphere iodide of potassium and starch, is not, in our view, satisfactory,* and there is no process by which the proportion can be accurately ascertained. Yet to say that it is deficient, and that such and such results follow, implies that we can determine the normal atmospheric standard, and accurately compare the quantity contained in the atmosphere of a cholera year with that existing in the atmosphere of a year in which cholera was unknown. Besides, as chemical agency is one great source of its production, and this is constantly in operation in this great metropolis, it may happen that the deficiency of ozone from a diminution of electricity (admitting this to be proved) is made up by its greater production from chemical sources. This sort of compensation assuredly exists with respect to oxygen; and it is not yet proved that ozone, if it be a normal constituent of air, is subject to any changes which are not fully compensated by other conditions. For these reasons the ozone hypothesis, although highly ingenious, leaves the origin of cholera still a mystery.

The Commissioners of Sewers have directed a notice to be sent to the medical officers of those districts in which cholera is prevailing, requiring them to state whether the process of flushing has been apparently attended with any marked increase of the disease in the respective districts. Of a choice of

* Nitric acid or chlorine in the atmosphere would produce the same effect.

evils, it has appeared to us at the present time to be less prejudicial to the health of the metropolis to leave the sewers unflushed, than to diffuse the foul effluvia over the neighbourhood by disturbing their contents. The choleraic poison appears to be in some way or other bound up with these effluvia issuing from drains and sewers; and there is therefore great risk of increasing the number of attacks of cholera by the system of flushing. The cleansing of the sewers should have been effected some months since: we are at present in the height of the epidemic, and no good can now arise from this sanitary officiousness. Except in special cases where the cleansing process is urgently required, it should be postponed until the atmospheric temperature has become lowered, and the disease has begun to decline.

The fearful ravages of cholera at Albion Terrace, Wandsworth, in which twenty persons of the middle class of life were successively cut off by the disease in the course of a few days, furnish an answer to the question now proposed by the Commissioners. "It appears," says the Registrar, Mr. Frost, "that at No. 13, where the first death occurred, and where two deaths were afterwards registered, the refuse of the house had been allowed to accumulate in one of the vaults (which is a very large one) for about two years; and, when removed, the stench was almost intolerable, there being about two feet of wet soil covered with maggots. The drains also had burst, overflowed into the tank, and impregnated the water with which the houses were supplied. On the back ground in the distance was an open ditch into which nearly the whole of the soil of Clapham runs."* These rapidly fatal cases, occurring in a row of well-built houses, and occupied by persons in easy circumstances, attracted general attention. All were desirous of knowing the cause of this great mortality. At a meeting of the Commissioners on the 6th inst., Mr. Grant, a surveyor employed by them, presented a report on the subject, from which we make the following extract:—

"Instead of attributing the outbreak to the removal of a quantity of refuse from one of the houses, as was suggested on a former occasion, or to the Healthwall sewer, as had been also suggested, the report went on to say that Albion Terrace was built upon a very loose, peaty, and damp soil; that the water supplied to the inhabitants proceeded from a spring; that the water from that spring was of an excellent character; but that just previous to the outbreak of cholera, heavy rains occurred. In consequence of the heavy rains which occurred, a pipe became fractured, and the water from the spring mixed with the cesspool water, and became, in fact, poisoned. He came, therefore, to the conclusion that, a communication having been caused between the tanks, drains, and cesspools, the contamination of the water was the real cause of the disease. (Several specimens of the water were here produced. Some of them were greatly discoloured, and emitted a most offensive odour.)"

A clerical member who was present at once adopted this view. He contended that these were *not* cases of cholera, but that the individuals had died from drinking poisoned water! This hypothesis, however, cannot be received. A gentleman who lived in the terrace, and who must therefore be presumed to be better acquainted with the facts than the Commissioners, has since given to the public the following plain statement:—

"As a member of a family long resident upon the terrace, which suffered severely by the epidemic, and intimately acquainted with the circumstances attending its appearance there,

* Registrar-General's Report, August 25.

I am desirous of expressing my humble conviction that the opinion entertained by the Court is erroneous, for the following reasons :—

"1. Because in some houses where deaths occurred, the water remained unaffected.

"2. Because in some houses where the water was used without intermission the inhabitants escaped.

"3. Because, when the water became turbid, in many cases it was not used, but procured from other sources.

"4. Because the attacks did not coincide with the discolouration of the water, the thunderstorm which flooded the sewer having occurred at least a week previously, and the water, at least in some instances, had returned to its original purity.

"5. *The greater number of attacks did coincide within a few hours with the removal of the rubbish from one of the neighbouring houses, and the only death which had occurred previously was of a servant in that house.*"

The "poisoned water" hypothesis is thus refuted, and the reason last assigned by the writer bears closely upon the question on which the Commissioners profess to require information. Admitting the truth of the statement, it appears to us conclusive in reference to the danger which, under present circumstances, may arise to those living in the neighbourhood, from disturbing decomposed animal matter, and thereby diffusing the noxious effluvia. If it be considered desirable to remove accumulated filth, care should at least be taken that the work is not carried on until the inhabitants of the neighbouring houses have been removed to another quarter. The practice of flushing sewers during the hot season has already caused loud complaints; and we believe that upon inquiry it will be found to have increased the number of attacks, by leading to the extensive diffusion of the choleraic poison.

THE Cholera still continues its ravages in the metropolis with unabated malignity. The deaths from this disease, which in the preceding week were 1663, have increased during the week ending September 8th to the large number of 2026,—making from cholera alone more than double the average number of weekly deaths. Lambeth and Southwark are still the quarters in which the largest number of deaths have been registered. Of the 2026 fatal cases there were—

Under 15 yrs.	Between 15 and 60.	Above 60.
530	1168	327

Individuals in the prime of life still furnish the greatest number of victims. Within the last few days the mortality has still further increased. Last week the daily deaths from cholera in the metropolis averaged 289. We fear that this week we shall have to record a still higher average. Notwithstanding the prediction of the Registrar-General, we do not yet see land.

September 6.

	Deaths from cholera.
In London and vicinity . .	307
In England and Wales . .	355
In Scotland	24
	686

September 7.

In London and vicinity . .	273
In England and Wales . .	485
In Scotland	22
	780

September 8.

In London and vicinity . .	328
In England and Wales . .	604
In Scotland	13
	945

September 9 *and* 10.

	Deaths from cholera.	
In London and vicinity . .	432	
In England and Wales . .	856	
In Scotland	43	
		1331

September 11.

In London and vicinity . .	450	
In England and Wales . .	449	
In Scotland	35	
		934

September 12.

In London and vicinity . .	316	
In England and Wales . .	582	
In Scotland	159	
		1057
Total deaths from cholera in Great Britain from the 7th to the 12th September		5733

LOCAL ANÆSTHESIA IN NEURALGIA.

Dr. Hays stated, that he had employed chloroform to produce local anæsthesia, with apparently the most happy effects, in a case of neuralgia, occurring in a gentleman fifty years of age, who had been for a long time a sufferer from neuralgia of the foot, in which all the remedies that had been previously employed failed to produce relief. Dr. H. was called to this patient about eight days since, and found him in intense pain, which had deprived him of sleep the whole of the preceding night. Dr. H. directed the affected parts to be enveloped with a pledget of lint or a few folds of muslin wet with chloroform, and the whole to be covered with a portion of oiled silk to prevent evaporation; on the next morning he found him entirely free from pain, which has not since returned. Whether the relief experienced in this case is to be ascribed to the local anæsthesia produced by the chloroform, or is to be considered as a mere coincidence, Dr. H. does not pretend to decide.—*Trans. Phil. Col. of Phys.*

Since this communication was made to the College, the further history of this case has shown, that an arrest of the paroxysm is always accomplished by the application to the chloroform; and to the use of the article, several other similar cases have been attended with like results.—*American Journal of the Medical Sciences.*

Reviews.

On the Mode of Communication of Cholera. By John Snow, M.D. Pamphlet, 8vo. pp. 31. London: Churchill. 1849.

In this essay, which is a modest contribution to medical literature on cholera, the author avows himself a believer in the now generally received doctrine that this disease is capable of being propagated by human intercourse. He takes, however, an entirely novel view of the mode in which it may become diffused among the inhabitants of a town or city. One of the difficulties which has been opposed to the admission of a contagious miasm in cholera is, that persons living in a remote quarter from the infected, have been suddenly attacked by the disease and died. There has been no proof of intercourse or communication, either directly or indirectly. In order to account for these cases, non-contagionists allege that cholera may spring up any where: heat, moisture, and organic matter, are all that they require for its production. But this view is not satisfactory: the same local agencies were at work in the same localities in 1845 as in 1849, and yet in the former year there was no cholera, while in the latter the inhabitants of the districts are speedily decimated by this disease. Something, therefore, must be superadded; for heat, moisture, and organic matter, even aided by ochlesis, whatever the Board of Works may say, will not of themselves produce cholera; a fact further attested by the circumstance that many quarters of a town where these conditions are met with escape the disease. What is this superadded something which renders putrescent effluvia so destructive to life in one year, while they only prove a harmless nuisance in another? What is this mysterious principle which, apparently associated with such effluvia, slaughters its thousands with the same symptoms, and with the same degree of malignancy, on the banks of the Ganges, the Danube, the Bosphorus, the Neva, the Thames, the Seine, and the Mississipi? It is not yet in our power to give an answer to these questions. Speculation is rife on the sub-

ject, but nothing satisfactory has been hitherto elicited.

Contagionists endeavour to account for the occurrence of isolated cases, where there is no proof of intercourse, by supposing that the atmosphere becomes a medium for the conveyance of the miasm, and that, although respired by all, it produces its effects only on those who are predisposed. Dr. Snow strikes out a new path: he believes that it is not the air, but the water, which is the medium of conveying the choleraic poison, and that the great prevalence of the disease in certain localities, and its occasional appearance in adjoining districts irrespective of intercourse, may be thereby accounted for. He believes that the discharges of the affected contain the choleraic poison, and that these discharges are excited by the application of some local irritant to the mucous membrane. The mode in which he believes cholera may be communicated will be understood from the following extract:—

"Having rejected effluvia and the poisoning of the blood in the first instance, and being led to the conclusion that the disease is communicated by something that acts directly on the alimentary canal, the excretions of the sick at once suggest themselves as containing some material which, being accidentally swallowed, might attach itself to the mucous membrane of the small intestines, and there multiply itself by the appropriation of surrounding matter, in virtue of molecular changes going on within it, or capable of going on, as soon as it is placed in congenial circumstances. Such a mode of communication of disease is not without precedent. The ova of the intestinal worms are undoubtedly introduced in this way. The affections they induce are amongst the most chronic, whilst cholera is one of the most acute; but duration does not of itself destroy all analogy amongst organic processes. The writer, however, does not wish to be misunderstood as making this comparison so closely as to imply that cholera depends on veritable animals or even animalcules, but rather to appeal to that general tendency to the continuity of molecular changes, by which combustion, putrefaction, fermentation, and the various processes in organised beings, are kept up.

"Whilst it is matter almost of certainty that intestinal worms are in this way communicated, it is never possible to trace the communication from one person to another: hence, if this be the mode of propagation of cholera, there must often be great difficulty in detecting it. That a portion of ejections or dejections must often be swallowed by healthy persons is, however, a matter of necessity. The latter even are voided with such suddenness and force that the clothes and bedding scarcely fail to become soiled, and being almost devoid of colour and odour, the presence of the evacuations is not always recognised; hence they become attached unobserved to the hands of the person nursing the patient, and are unconsciously swallowed, unless care be taken to wash the hands before partaking of food: or if the person waiting on the sick have to prepare food for the rest of the family, as often happens, the material of communication here suggested has a wider field in which to operate; and where the patient, or those waiting on him, are occupied in the preparation or vending of provisions, the disease may be conveyed to a distance, and into quarters having apparently no communication with the sick." (pp. 8-10.)

There is some confirmation of this view in the fact that puerperal fever is thus conveyed by accoucheurs to females in the puerperal state: and we entertain no doubt that the prevalence and fatality of cholera, as well as of many other diseases, may be ascribed to a want of cleanliness on the part of those who are in contact with the sick.

In spite of infinitesimal dilution, the author believes that the cholera may be spread over a town by the use of water contaminated by sewers, which carry off the dejections of patients. We do not understand him to assert that the use of water accidentally impregnated with the contents of drains and sewers will produce cholera, unless cholera dejections exist in it; indeed, there are numerous facts which are adverse to such a view. For many years past, and while the cholera was as remote as the banks of the Caspian sea, water of this foul description was habitually consumed by the poor in many quarters of this metropolis; but cholera did not make its appearance. Dr. Snow's theory, therefore, is that the choleraic poison, however diluted, must be contained in the water in order to produce the disease in an individual using it. He tells us that so far as his inquiries have extended, he has found that in most towns in which the malady has prevailed to an unusual extent, this means of its communication has existed.

In support of this opinion the author quotes a series of cases which recently

occurred in Surrey Buildings, Southwark:—

"The two first cases on the 20th and 21st may be considered to represent about the average amount of cases for the neighbourhood, there having been just that number in the adjoining court about the same time. But in a few days, when the dejections of these patients must have become mixed with the water the people drank, a number of additional cases commenced nearly together. The patients were all women and children, the men living in the court not having been attacked; but there has been no opportunity hitherto of examining into the cause of exemption, as the surviving inhabitants had nearly all left the place when the writer's attention was called to this circumstance." (pp. 14-15.)

The facts mentioned in this extract, however, clearly admit of another explanation. There is nothing to prove that the additional cases, commencing about the same time, absolutely depended on the drinking of the water. Other causes, irrespective of the water, may have been in operation, especially as the persons were living in close proximity to the affected. It might turn out on inquiry that the men living in the court, who were not attacked, used the same water. We do not say that the disease may not thus be communicated to the healthy, but we consider that the facts here mentioned only raise a probability, and furnish no proof whatever of the correctness of the author's views. The *experimentum crucis* would be, that the water conveyed to a distant locality, where cholera had been hitherto unknown, produced the disease in all who used it, while those who did not use it escaped.

The fatal cases which occurred at Albion Terrace, in the Wandsworth Road, have excited great public notoriety. Dr. Snow thinks that their occurrence is to be explained by a reference to his views of the mode of communication of cholera.

"In Albion Terrace, Wandsworth Road, there has been an extraordinary mortality from cholera, which was the more striking as there were no other cases at the time in the immediate neighbourhood; the houses opposite to, behind, and in the same line, at each end of those in which the disease prevailed, having been free from it. The row of houses in which the cholera prevailed to an extent probably altogether unprecedented in this country, constituted the genteel suburban dwellings of a number of professional men and tradespeople, and are most of them detached a few feet from each other. They are supplied with water on the same plan. In this instance the water got contaminated by the contents of the house-drains and cesspools; the cholera extended to nearly all the houses in which the water was thus tainted, and to no others."

"The first case of cholera occurred at No. 13, on July 28th (two days after the bursting of the drain), in a lady who had had premonitory symptoms for three or four days. It was fatal in fourteen hours. There was an accumulation of rubbish in the cellar of this house, which was said to be offensive by the person who removed it; but the proprietor of the house denied this. A lady at No. 8 was attacked with choleraic diarrhœa on July 30th: she recovered. On August 1st, a lady, aged 81, at No. 6, who had had some diarrhœa eight or ten days before, which had yielded to her own treatment, was attacked with cholera; she died on the 4th with congested brain. Diarrhœa commenced on August 1st, in a lady, aged 60, at No. 3; collapse took place on the 5th, and death on the 6th. On August 3d, there were three or four cases in different parts of the row of houses, and two of them terminated fatally on the same day. The attacks were numerous during the following three or four days, and after that time they diminished in number. More than half the inhabitants of the part of the terrace in which the cholera prevailed were attacked with it, and upwards of half the cases were fatal. The deaths occurred as follows; but as some of the patients lingered a few days, and died in the consecutive fever, the deaths are less closely grouped than the seizures. There was one death on July 28th, two on August 3d, four on the 4th, two on the 6th, two on the 7th, four on the 8th, three on the 9th, one on the 11th, and one on the 13th. These make twenty fatal cases; and there were four or five deaths besides amongst those who were attacked after flying from the place."

"There are no data for showing how the disease was probably communicated to the first patient, at No. 13, on July 28th; but it was two or three days afterwards, when the evacuations from this patient must have entered the drains, having a communication with the water supplied to all the houses, that other persons were attacked, and in two days more the disease prevailed to an alarming extent." (pp. 15, 17, 18, 19.)

With respect to the communication of the disease by the water, Dr. Snow observes—

"There were two or three persons attacked with cholera amongst those who came

to nurse the patients after the water was condemned, and who, consequently, did not drink it; but these persons were liable, in waiting on the patient, to get a small portion of the evacuations into the stomach in the way first pointed out; and there might be food in the houses previously prepared with the tainted water. It is not here implied that all the cases in Albion Terrace were communicated by the water, but that by far the greater portion of them were; that, in short, it was the circumstance of the cholera evacuations getting into the water which caused the disease to spread so much beyond its ordinary extent." (p. 21.)

We cannot perceive how the last position is proved, or even rendered probable. The first case which occurred on July 28th, at No. 13,—a house in which there was an accumulation of decomposing organic matter in the cellar, could have had no connection with the choleraic dejections; for the water was then rendered foul only by impregnation with the contents of the drain; and it is clear that whatever will explain the origin of this *one* case, will explain the occurrence of others in the immediate vicinity. Dr. Snow admits that *all* the cases were certainly not communicated by the water, and, with this admission, we are at a loss to know why it is assumed that the greater portion of them were. There is, in our view, an entire failure of proof that the occurrence of any one case could be clearly and unambiguously assigned to the use of the water. We agree with Dr. Milroy in thinking that the foul effluvia from the state of the drains, afford a more satisfactory explanation of the diffusion of the disease. Any local cause operating in one house, might fairly be considered to extend its influence to those immediately adjoining it; and whatever produced one case of cholera, might suffice to produce twenty in succession. Some remarks on this subject will be found elsewhere,* and in the extract of a letter appended to those remarks, and apparently from an authentic source, the reader will find enough to show that the diffusion of the cholera in Albion Place by the dejections in water, is altogether inconsistent with the facts observed.

Dr. Snow admits that the choleraic poison may find its way into the lungs under the following circumstances:—

"It should be observed, that the mode of contracting the malady here indicated does not altogether preclude the possibility of its being transmitted a short distance through the air; for the organic part of the fæces, when dry, might be wafted as a fine dust, in the same way as the spores of cryptogamic plants, or the germs of animalcules, and entering the mouth, might be swallowed. In this manner, open sewers, as their contents are continually becoming dry on the sides, might be a means of conveying the cholera, independently of their mixing with water used for drinking." (pp. 26-7.)

It is due to Dr. Snow to state that he modestly puts forward his opinions, not as matters of certainty, but as containing some probability in their favour. The assumption that cholera may be diffused by the use of water containing the dejections of patients, or by want of cleanliness among attendants on the sick, cannot be denied; but facts are yet wanting to place it among those unquestionable truths which the profession is earnestly endeavouring to accumulate in reference to this disease.

Whether his theory be confirmed or disproved by subsequent experience, all will agree in the propriety of the suggestions with which the author concludes his pamphlet.

"If the writer's opinions be correct, cholera might be checked and kept at bay by simple measures that would not interfere with social or commercial intercourse; and the enemy would be shorn of his chief terrors. It would only be necessary for all persons attending or waiting on the patient to wash their hands carefully and frequently, never omitting to do so before touching food, and for everybody to avoid drinking, or using for culinary purposes, water into which drains and sewers empty themselves; or, if that cannot be accomplished, to have the water filtered and well boiled before it is used. The sanitary measure most required in the metropolis is a supply of water for the south and east districts of it from some source quite removed from the sewers." (p. 30.)

We cannot conclude our notice of this pamphlet without quoting from it an important note in reference to Dr. Parkes's recent inquiry for the Board of Health, on the alleged importation of cholera into London. The reader will find in a former number some remarks upon this report, and the note here furnished by Dr. Snow may be

* Page 464.

taken as a correction of the quotations there made.*

"Some serious mistakes respecting these (early) cases have crept into the documents furnished to Dr. Parkes by the General Board of Health, as subject matter for his inquiry into the bearing of the earliest cases of cholera on the question of contagion; as will be evident from a comparison of the following quotations from Dr. Parkes's paper, with the accompanying statement of the real circumstances:—

"The Elbe steamer left Hamburgh on the 22d September, and arrived in the river on the 25th. A seaman, named John Harnold, left the vessel, and went to live at No 8, New Lane, Gainsford Street, Horsleydown. On the 28th of September he was seized with symptoms of cholera, and died in a few hours. It is stated in a letter to the General Board of Health, from Mr. Russell, who attended the patient, that all the characteristic symptoms of cholera were present. Mr. Bowie, who inquired on behalf of the Board into the particulars of the case, corroborated this statement. This may, then, be considered as an undoubted case of cholera.

"If the disease was imported thus from Hamburgh, it did not spread in Horsleydown. Two days subsequently, indeed, Mr. Russell was sent for to a patient in the same house, who fancied he had cholera; but, on examining into particulars, it turned out that the individual in question had been greatly alarmed at the death of the seaman, and was suffering more from the effects of fear than anything else. He was quite well in a few hours. No other person was taken ill in the house or immediate neighbourhood, although, if the second case had not been inquired into, a vague story of communicated disease might have arisen in the neighbourhood.

"Now the illness and death of John Harnold took place on the 22d of September, and not on the 28th, and Mr. Russell attended the next case in the same *room* on September 30th. There were, in this latter case, rice-water evacuations, and, amongst other decided symptoms of cholera, complete suppression of urine from Saturday to Tuesday morning, and the patient vomited incessantly for twenty-four hours after this, and afterwards had consecutive fever. Mr. Russell had seen a great deal of cholera in 1832, and had no doubt of this being a genuine case; and he has seen a great deal of the disease lately, and still continues of the same conviction.

"The mistake in the date alone at which the first case occurred, alters the bearing of all the facts submitted to Dr. Parkes, even should the particulars of all the other cases be correct. The writer accidentally detected the errors pointed out in this note by having to call on Mr. Russell in his inquiries respecting Surrey Buildings." (pp. 27-29.)

Notwithstanding our opinion that Dr. Snow has failed in proving that cholera is communicated in the mode in which he supposes it to be, he deserves the thanks of the profession for endeavouring to solve the mystery. It is only by a close analysis of facts, and the publication of new views, that we can hope to arrive at the truth.

* Medical Gazette, August 3, p. 197.

Correspondence.

TREATMENT OF SPURIOUS ANEURISM—CASE OF THE LATE MR. J. G. ANDREWS.

Sir,—In my clinical lecture on the subject of spurious aneurism, delivered at the London Hospital, and reported in your journal of August 10th, a case is dwelt upon of aneurism of the ulnar artery, arising from a wound, in which the treatment by graduated pressure was pursued. That treatment has been continued, and the case is now completely cured. I deem it my duty to mention this, as my clinical lectures have been discontinued for the present summer.

In observing further upon this case I may be permitted to remark that the plan of treatment is one which may be conveniently followed in spurious aneurism of arteries near the surface, and which from other circumstances are favourable to the application of pressure, as where an artery lies in close contiguity to a bone. One objection, however, may be raised against it—namely, the length of time required to effect a complete cure, and the possible risk of endangering the vitality of the limb by badly applied pressure. It may of course also be said that the ligature is the safest and quickest mode of treatment, and is therefore preferable. In some cases this may be a valid argument for the employment of the ligature, and in the case before me, had I known the circumstances of the lad, I should probably have tied the artery when he was first admitted. But I think a public hospital is the place in which various modes of treating the same disease can be with propriety applied, and I was therefore induced to show the class what may be accomplished by persevering in the use of carefully applied pressure. I need not of course make any allusion to the well-known surgical axiom, that operations are to be regarded as affording indication of the imperfection of our art, and that they ought to be avoided as much as possible in the cure

of diseases. I am induced to allude to a case of wounded radial artery, to which, independent of the ordinary interest belonging to wounded arteries, unusual interest attaches, from the circumstance that, in the attempt to secure the bleeding vessel, Mr. Andrews, the senior surgeon of the hospital, met with an accident which terminated in his destruction.

The case was that of a young man, who had received an injury of the wrist, by which the radial artery was wounded: he was seen by a practitioner in the neighbourhood of the hospital, who applied pressure to the wound, and thus for a time arrested the flow of blood. The wound, however, did not heal, and after a few days alarming hæmorrhage occurred. Mr. Andrews was sent for, and I, happening to be at the hospital, saw the case with him. There could of course be no doubt as to the proper treatment of the case, and the clots which filled the wound having been cleared away, and the tourniquet relaxed, a large wound in the artery was discovered, and brisk hæmorrhage was seen to come from the *distal* end of the artery (the artery was not divided): it was whilst leaning over a table in the attempting to secure the lower end of the vessel that Mr. Andrews complained of sudden severe pain in the chest, and I therefore finished the operation by passing a needle beneath the artery, and tying it above and below the wound. No further hæmorrhage took place, and the man speedily got well.

I take this opportunity of describing the circumstances of Mr. Andrews' death, as some misconception has got abroad respecting it, and many are under the impression that he has died of cholera. Mr. Andrews had been in the enjoyment of his usual health; but I have ascertained since his death that of late he had occasionally complained of being easily fatigued, and had experienced some difficulty in walking up hill. Nothing, however, had been remarked about him, up to the day alluded to when he was sent for to the hospital. I have stated that whilst attempting to secure the radial artery he complained of severe sudden pain across the chest. He was compelled to desist from the operation, and sat down in the nurse's room: he was at first somewhat faint, and took some ammonia and a small quantity of warm brandy and water. His pulse, which was a little weakened at first, soon rallied, and the expression of his countenance revived. The pain still continued, but becoming a little mitigated, he was able to walk to the hospital door, and was taken home in a cab. Here again the pain in his chest continued, and his breathing became somewhat embarrassed. He took by his own desire Calomel gr. ii. Opii gr. j. and went to bed. I saw him from time to time, but there was no perceptible alteration in his condition for some hours. He vomited some tea without pain or effort; he complained of numbness of his feet, and his hands were bedewed with a cold clammy sweat; his pulse was still regular, and tolerably full, and by no means quick. His chest was directed to be fomented with hot flannels, and he expressed some relief.

As the pain and other symptoms continued without decided relief, I entertained a suspicion that an aneurism might have given way in the chest, but I confessed to his friends that the idea was only problematical. However, under this impression I carefully examined the chest and abdomen, but the only thing abnormal that I could discover was a pulsation circumscribed to a small space on the right side of the spine in the abdomen: this rather strengthened my impression as to aneurism, and I fancied that an abdominal aneurism might by possibility have given way, and that the blood was making its way up the mediastinum.

At 10 o'clock (the beginning of the attack having occurred at half-past 2) there was a slight mitigation of the symptoms; but on getting out of bed to have his bed arranged, Mr. Andrews suddenly fell back in his chair, and shortly expired.

On the examination of the body after death, it was found that the aorta had given way at the commencement of its descent into the mediastinum; that a rent to the extent of an inch in a transverse direction had taken place, and that the blood had gradually distended the posterior mediastinum as well as the upper part of the anterior mediastinum, so as to encroach upon the upper part of the pericardium, and that a considerable laceration of the left pleura having occurred, about five pints of blood were extravasated in its cavity. The aorta was most extensively diseased, atheromatous deposits being studded universally over its surface, many of the atheromatous spots being in a softened state. There was a small aneurism about the size of a walnut in the abdomen, just above the bifurcation of the aorta. The coronary arteries of the heart were extensively ossified, and the aortic valves were much thickened. There were no other evidences of disease except a large urinary cyst connected with the left kidney.

The case is instructive, and I may be permitted to make a brief allusion to it. I was not far out in my conjecture as to the nature of the attack, and I ventured to prognosticate after death the course which the blood would, on examination, be found to have taken. I have seen some and heard of others not exactly similar, but in many respects parallel to this. I allude to instances where abdominal aneurisms have given way behind,

and where the blood, gradually making its way in the course of the mediastinum, has eventually burst through the left pleura, and death has taken place suddenly: from my own observation I would say that this happens more frequently to the left than the right pleura, and the reason is obvious enough.

I am, sir,
Your obedient servant,
JOHN ADAMS.

4, St. Helen's Place,
Sept. 1849.

THE LOBELIA QUACKERY IN CASES OF CHOLERA, AND ITS EFFECTS.

SIR,—In the last week's number of the MEDICAL GAZETTE there appears the report of a trial for alleged manslaughter by the poisonous action of lobelia inflata. I do not at present intend to inquire whether the jury performed the duty which devolved upon them in strict accordance with the oath they had taken; but it is my intention to trace the doings of the members of the "Medico-Botanic Club" since the trial, and then let the jury and learned counsel reflect that they are morally responsible for the lives of the unhappy victims of these self-constituted doctors. The one acquitted the accused contrary to all evidence, and the other held him up to an ignorant public as a paragon of learning.

Not many days ago I was called to a poor man suffering from an attack of cholera. After prescribing I left, but returned shortly after, and found these parties in attendance. The man died.

On Saturday last I was called at 6 A.M. to visit the wife of a mechanic. I found her labouring under the symptoms of cholera. After prescribing, and ordering her to be sent to the Cholera Hospital, I left. On my return I found that when the husband left my house with the medicine, he went to one of the agents of the "Medico-Botanic System" (a shoemaker), who attended. I did not see the woman again, but the husband told me that he had *not given any of my medicine*. The woman lived about eleven hours after I saw her. In both these cases I refused a certificate of the cause of death.

As yet we have had few cases of cholera; but, should Maryport be visited, like its neighbouring town, with this disease, it is horrible to contemplate the number of poor deluded creatures who must pay with their lives the penalty of their folly. If they trust to the nostrums of these people in the incipient stage of the disease, they are very inefficacious indeed; and if they treat the disease in its confirmed stage as recommended by the founder of the system, not one will recover. In confirmation of this, we need only look at the fearful mortality of a neighbouring town, where I know this system has been carried on to a very great extent.

How easy will it be, with such a state of things, for parties tired of maintaining their relatives, to rid themselves of the burden, and then urge as the plea that they did all for the best; and do we not every day hear of parties being poisoned for a paltry burial fee of a few shillings?

Does the law afford no remedy for such a state of things? To me there would appear to be none; for if the medical attendant, who alone can know these things, interferes, he is *compelled* to attend to give evidence in a court of justice, where he must silently listen to any *insult* and *insinuation* the counsel may think proper to put upon him, and this is said to be done for the ends of justice; and yet, if he silently permits these things to be perpetrated, he undoubtedly incurs a serious responsibility.

I am informed that these men, in order, as they think, to evade the law, do not give the medicine with their own hands, but visit the patient, prescribe, and then tell the friends that they may give it or not as they think proper. It would be well that both they and the friends should remember, that, if they undertake the treatment of a dangerous disease, and are guilty of gross ignorance or neglect, they are both guilty of manslaughter. But if, after calling in a qualified practitioner, they withhold from the patient the medicine prescribed, and substitute for it that of an ignorant man, it would, I think, justly become a question whether they had not been guilty of a still more serious crime.—I am, sir,

Your obedient servant,
J. PEARSON, M.D.

Maryport, Sept. 4, 1849.

TABLES OF MORTALITY FROM CHOLERA IN 1832.—NOTE FROM THE EDITOR OF THE "DUBLIN QUARTERLY JOURNAL."

[IN our journal of August 31 we inserted a letter from Dr. S. W. J. Merriman on the mortality from cholera in 1832. The Editor of the "Dublin Quarterly Journal" has forwarded us the subjoined note on the subject:—]

It is there asserted that "no complete account of the cholera had ever been published until Dr. Merriman obtained in 1844 a copy of the summary of cases returned to the Board of Health in 1831-2, and preserved in the Privy Council Office, and published extensive extracts from this in the twenty-seventh volume of the 'Medico-Chirurgical Transactions,' and this still remains the only statistical account ever printed as a whole." In the 16th volume of the former series of the "Dublin Medical

Journal," published in 1839, Dr. Graves gave a lengthened and very complete account of the progress of Asiatic cholera; and in the 17th volume, published in 1840, he added, as an appendix to his paper. the very tables the publication of which for the first time in 1844 is now claimed by your correspondent. The saving of such valuable documents from destruction is so remarkably stated by Dr. Graves, that it is surprising the fact of their previous publication should have been unknown to Dr. Merriman. "These tables," writes Dr. Graves, "are taken from the official report presented by the Commissioners to William IV., of which report but one copy existed: that copy was mislaid, and would have been lost to the world, had not Sir James Clark exerted himself to make it out; and, by the aid of the Royal Librarian, it was at last found buried amongst an heterogeneous mass of papers in a drawer.

Dublin, Sept. 6, 1849.

Medical Intelligence.

THE PROBABLE CAUSES IN OPERATION TO PRODUCE PESTILENTIAL CHOLERA.

(From the Athenæum.)

ALTHOUGH it would be idle to assert that anything approaching to even a remote acquaintance with the causes which are in operation to produce the terrible disease that is moving across the earth, spreading mourning in its path, has been arrived at, it does appear that the scientific investigations which have within a few years been made upon the chemical and physical state of the atmosphere are such as really indicate the direction in which we may look with some hope of finally arriving at a solution of this important problem. In the conviction that it is only by a widely-extended system of close observations that we can come at the truth—and that our hope of dealing successfully with the disease depends of course on our knowledge of the causes producing it—I seek a small portion of space in the pages of the *Athenæum* to submit my views, and the facts on which they are founded, to the observation of scientific observers and medical men.

If we study the progress of the disease, it becomes apparent that, taking its rise in the East, it has proceeded with some considerable degree of regularity towards the West. There are certain irregular passages—jumps both in time and space—which do not admit of explanation at present; but the course has been sufficiently marked to cause the cholera in its Asiatic form to be regarded as mainly dependent upon some atmospheric conditions. In all cities which had been visited by the disease, although isolated cases have presented themselves in the most salubrious parts, yet it has ever been most fatal in those localities where the atmosphere has become charged with organic matter arising from the accumulation and decomposition of animal and vegetable substances.

Our experience proves to us that there are no more insidious or more rapidly fatal poisons than those which organic chemistry has discovered; and of many of the most virulent the exact composition is yet unknown. Of the numerous chemical changes which take place during the passage of decomposing organic matter, under constantly varying conditions of light, heat, atmospheric pressure, &c., we know little. May we not, therefore, infer that malignant cholera is produced by a subtle organic poison formed under some peculiar atmospheric laws? The probability of this being admitted, we have to examine the prevailing conditions observed in any physical phenomena during the reign of the epidemic.

We have heard that at St. Petersburgh magnets lost their power,—and that in Paris, electrical machines would not give out sparks,—during the ascendancy of cholera in those cities. Statements of this nature have but little scientific value. However, that they have resulted from some remarkable phenomena of the kind described is probable; since M. Quételet has proved by careful observation that the electrical intensity of the atmosphere has been during the whole year about one-half of that observed in former years,—that it has been regularly diminishing since January up to a certain period,—and that it has appeared for some time stationary. M. Louyet has observed the same anomalous condition by means of his electrical machine in the interior of his house. (*Bulletin de l'Académie Royale des Sciences de Belgique.* No. 7. Tome XVI.) These results obtained by competent observers demand our serious attention. We must not, however, satisfy ourselves by referring the disease at once to electrical agency, but endeavour to discover in what manner, or through what chain of effects, the malignant action is set up in the animal economy.

To Professor Schönbein is due the merit of having discovered the existence, in ever variable quantities, in the atmosphere of a peculiar agent of a most remarkable character, to which he gave the name of *ozone*: which appears to be—although its composition has not been accurately determined—a peculiar volatile compound of oxygen and hydrogen. A similar compound—perhaps

the same in a liquid state—the *peroxide of hydrogen* or oxygenated water, has engaged the attention of Thénard, Pélouze, Berzelius, and several other eminent chemists. By these investigators it has been proved that this substance possesses more remarkable oxidizing powers than any other compound yet discovered. Its volatile state alone must, however, engage attention. Ozone is constantly produced in the atmosphere under every circumstance which determines either electrical or chemical changes; and its amount appears to vary in an exact ratio with the electrical intensity. We may produce it in a room by exciting an ordinary electrical machine, when it is detected by its very peculiar smell; we obtain it during the decomposition of water by the voltaic battery in combination with the liberated oxygen; and Schönbein has proved that ozone is formed in every process of combustion.

The use of this agent in the atmosphere will, I think, be obvious after a very brief consideration of the conditions which prevail during the mutations of organized bodies. All living animals and vegetables are constantly throwing off from their bodies organic matter in a condition the most fitted for recombination with the chemical elements of the air. The gaseous exhalations from all dead matter are also constantly combined with organic particles in a state of extreme division. (On this subject Dr. Smith's paper on the Air and Water of Towns—British Association Report for 1848—may be consulted with advantage.) Thus, the atmosphere is constantly receiving exhalations from the earth and its inhabitants, which, without a provision for their removal, would speedily become far more injurious to all forms of life than carbonic acid, though to that alone we have been in the habit of too commonly attributing atmospheric deterioration. Referring to those pestilential exhalations which were regarded as the cause of the jail-fever of his time—and to which we may trace plague, typhus fever, and cholera—Bacon, in his 'Sylva Sylvarum,' says truly—"*Out of question such smells consist of man's flesh and sweat putrified*," and the destructive nature of such a poison is too frequently proved to us by the apparently trifling accidents of the dissecting-room terminating rapidly in the most fatal results.

Ozone combines with, and changes in, the most rapid manner, all animal matters, except albumen in its fresh state. I am, therefore, disposed to consider it as the great natural agent employed to convert all those deleterious exhalations which the air receives into innocuous matter. An atmosphere artificially charged with ozone immediately deprives the most putrid solid or fluid bodies of all disagreeable smell,—and sulphuretted hydrogen is instantly decomposed by it. In fact, its action upon organic matter is far more energetic than that of chlorine; and, indeed, the bleaching and disinfecting property attributed to chlorine, appears to be due to the formation of the per-oxide of hydrogen by that agent from the water present.

It has been proved that the electrical intensity of the atmosphere has during the year been diminished in a remarkable manner. As this is the great cause, ever active in producing ozone, we might *à priori* infer a relatively diminished quantity of this chemical agent; and experiment has proved that during the last three months an appreciable quantity of ozone could not be detected by the ordinary methods in the air of London. It may be satisfactory to state, that its presence is rendered evident by its action upon a mixture of iodine of potassium and white starch; iodide is liberated by the action of ozone, and in the formation of coloured iodide of starch, indicates its presence.

Certain it is that we have for several months had to endure an atmosphere of low electrical intensity, deficient in *ozone*,—an agent which would remove or alter pestilential miasma. Vegetation has exhibited—and is now exhibiting—peculiar abnormal conditions dependent upon solar influences of which we are absolutely ignorant; consequently, the atmosphere has been receiving an excess of organic poison from the thousand and one sources which the congregation of masses of men in towns gives rise to, and has remained unchanged to do its work of destruction upon humanity.

In the history of the progress of this pestilence, two remarkable instances present themselves to our notice. Birmingham and Berlin (?) have remained free from the scourge, while all cities and towns around them have been visited by it. Are the metallic manufactures of these towns active in producing this disinfecting agent, ozone?

The question naturally arises—have we any power by which we can restore to the air this principle which it requires? All human means are necessarily weak, and the inflictions of Providence must be endured with fortitude. At the same time, the powers of reason which are given to man for his guidance, should be exerted to ameliorate the evil that we cannot control. Our first study is to remove every source of decomposition as rapidly as possible from the precincts of our dwellings,—our next to watch ourselves, and by preserving an active condition of mind and body, fortify the system against the malignant influences which surround us. Subsidiary to these means,—since we know that ozone is formed in the process of combustion, and that large fires

have proved again and again effectual in stopping the progress of the plague, &c.,—bonfires, heavy discharges of artillery, and the like agents, might be tried in the worst districts. Lastly,—with all deference to the opinions of the medical world, with which I have ceased for many years to be connected,—I would suggest the propriety of trying *oxygenated water* as a remedial agent in Asiatic cholera.

Each time that the cholera has disappeared from amongst us, it has been rapidly followed by influenza. At the meeting of the British Association at Swansea, Dr. Moffatt communicated the remarkable fact, that the prevalence of influenza, and the spread of catarrhal affections, were invariably connected with an excess of ozone in the atmosphere, and a great number of altered test-papers were brought forward in proof of his statement.

The subject demands attentive inquiry; and since it is a question which can be answered only by simultaneous observations over a wide area, I would venture to suggest the propriety of its forming a topic of investigation for a Committee of the British Association.—I am, &c.,

ROBERT HUNT.

August 28th.

POPULAR REMEDIES FOR CHOLERA.—DEATH FROM POISONING BY OPIUM.

[THE following case shows that the Legislature should interfere to prevent the names of eminent physicians from being circulated in connection with quack remedies:—]

On Tuesday, Sept. 4, an inquiry took place before the coroner of Liverpool, relative to the death of an infant, 19 months old, the son of William and Elizabeth Dowick, who reside in Blundell Street, Liverpool, and whose death, it was alleged, had been occasioned by having had administered to it a dose of the mixture said to have been prescribed by Sir J. Clark for cholera. The evidence of the child's mother, and of Mrs. Crowther, publican, Blundell Street, was to the effect that after the medicine had been administered, the deceased slept for a length of time, and when he awoke he appeared to be in a fit. He died the same evening, about 9 o'clock. The dose given was about a teaspoonful. Mr. John Bold Hyams, surgeon, of Duke Street, deposed as follows:—The deceased was brought to me between 4 and 5 o'clock on Saturday evening last. He was at the time in a state of stupor, and very difficult to be roused, and breathed with difficulty. The pupil of the eye was contracted, laboured pulse, and he appeared to be suffering under all the symptoms of narcotic poison. I ordered him resuscitants, and everything that might conduce to arouse him from a state of stupor, and excite the vital energy. I saw him again some time afterwards, but he continued to sink, and died in my presence between 8 and 9 o'clock. I am of opinion that death was caused by some narcotic poison. A teaspoonful of what is called "Sir James Clark's Mixture" would be quite enough to have caused the death of the deceased. I have examined the printed prescription now produced (the one attributed to Sir James Clark). A teaspoonful of the mixture would contain from 26 to 30 drops of laudanum. A tablespoonful of it would contain 120 drops, or five grains and a half of solid opium. I consider it a most dangerous prescription: indeed, I may say, poisonous. The Coroner instructed the jury that, under the circumstances, their verdict must be one of chance medley, which verdict the jury returned, acquitting the mother of the deceased and Mrs. Crowther of all culpability in having administered the mixture to the child. During the progress of the inquiry the Coroner sent a request to Mr. Dowling and Dr. Duncan to attend him at his office, and Mr. Dowling having arrived, he (the Coroner) remarked that when he had heard of the medicine having been administered under the sanction of the Dock Committee, and knowing its dangerous nature, having had the opinion of three medical gentlemen confirming him in this, he thought it his duty to communicate with Mr. Dowling, and Mr. Dowling would tell them the course which had been adopted. He looked upon the prescription as a most gross and diabolical imposition. Mr. Dowling explained that the medicine, after a consultation of magistrates, had been left at each of the police stations, and he felt bound to say that it had been taken in a number of cases with a good effect; but the moment he heard that Sir J. Clark had repudiated the prescription, he consulted three medical men, and by their recommendation another medicine had been substituted; and he thought the more public the forgery was made known the better, and agreed with the Coroner upon the propriety of issuing a placard cautioning the public. The Coroner hoped publicity would be given to what had transpired, and that it would be made known that the mixture was a dangerous and deadly poison; and he looked upon the man who had concocted the prescription, and used the name of a talented man to give it currency, as great, if not a greater felon than the murderer of Mrs. Henrichson and her family. It was a gross and diabolical forgery.

Sir J. Clark has disavowed all knowledge of the medicine which has thus been fraudulently assigned to him as the prescriber.

THE CHOLERA IN THE PROVINCES.

The daily returns prove that nearly every town throughout England and Wales has been visited by this disease. The greatest number of deaths have, however, occurred in Hull, Wolverhampton, Leeds, and Liverpool. The return for the week ending September 8th, gives the following as the number of deaths registered in each locality, Hull occupying the first place:—

	Deaths.
Hull	280
Wolverhampton and Seisdon	258
Leeds	188
Liverpool	132
Sculcoates	116
Hunslet	116
Clifton	82
Manchester	78

The total number of deaths from cholera throughout England and Wales during the week ending September 8th, amounted to 2513. The deaths returned for all Scotland in the same period were only 137, but we believe that the mortality is much greater in that part of the kingdom than this return represents.

THE CHOLERA IN PARIS.

The cholera still lingers in some of the quarters of Paris, and though by no means of a formidable character, so far as the number of the victims is concerned, it still occasionally strikes down some remarkable persons, who serve to perpetuate its memory amongst the people. That terrible scourge has now existed six months in the capital, and from its first appearance till the 31st of last month there have been 10,195 deaths in private houses and 8,406 in the hospitals, giving a total of 18,611, or an excess of 200 over the year 1832. If, however, we take the fact into account, that the population of Paris has increased since that period by 300,000, we shall find that the numbers of the present year are not yet equal to those of 1832. About three weeks or a month ago the deaths averaged about 20 per day; they increased gradually to about 45; and the latest returns, giving 20 per day in the hospitals and a little more than the same number in private houses, during the last fortnight, would show that it has kept to that number, but has rarely passed it. There can be no doubt that the malady has lost its intensity or its power to increase in any marked manner; and the change of temperature observable for the last few days, coming after a period of intense heat, and the gradual approach of a cooler season, furnish sufficient hope that about the middle or towards the end of the present month it will have completely ceased.

Those who feel excessive alarm about the increase of cholera cases and deaths in London ought to reflect that even there, with a population more than double that of Paris, the deaths have as yet been scarcely one-fourth of those in the latter city in the month of June last. For many days there were 700 deaths attested, or at the rate of very nearly 5000 per week. Even the additional deaths within the last fortnight are attributed to the great abundance of unripe fruit which, notwithstanding the obvious danger of making use of it, finds plenty of consumers.

From the latest reports, it appears that the cholera has undergone no marked increase. The deaths from the disease amounted in two days, September 3d and 4th—

In the hospitals to	38
In the city to	92
Total	130

making an average daily mortality of 65. Our readers will remember that in June the daily deaths reached 700. We may consider therefore that the disease is rapidly on the decline. In the city of Paris, exclusive of the hospitals, the cholera has destroyed, since its outbreak in March, no fewer than 10,404 persons!

THE CHOLERA IN DUBLIN.

Although the accounts of Saturday and Sunday were said to be more favourable—the coldness of the weather during the latter part of the week having, it is supposed, given a check to the disease—several deaths of persons in the middle classes were reported since Friday last; and in some of the most healthy suburban localities the mortality is still very alarming. The theory of good air and cleanliness being preventives seems to be completely set at nought. No locality about Dublin has escaped the ravages of the pestilence, more or less.

THE CHOLERA IN CUBA.

The whole of the northern hemisphere appears to be now overrun with this malignant disease. Letters from the Havannah, dated July 15, mention that many cases of cholera had occurred there, and nearly all had proved fatal. The yellow fever is also very prevalent in the island: more than 5000 persons had been already cut off by it.

THE CORONERS AND THE CHOLERA.—GREAT INCREASE OF INQUESTS.

At a meeting of the Middlesex magistrates on the 6th inst. a report of the Committee of Accounts and for General Purposes was read, by which it appeared that from the 2d of July to the 17th of August. Mr. Baker, the coroner for the eastern division of the county had held as many as 223 inquests, upon which the charges for fees, mileage,

and disbursements, amounted to no less a sum than £739. 3s. 11d. The report then stated that between the 25th of June and the 11th of August, Mr. Wakley, who was the coroner for the western division of the county, had held 190 inquests, upon which the charges had amounted to £523. 3s. 11d.; whilst Mr. Bedford, the coroner for the city of Westminster, had held 115 inquests between the 3d of May and the 31st of July, upon which the charges were £175. 16s. 6d. There was not any return made of inquests which had been held by the coroner for the Duchy of Lancaster. The total, therefore, of the expenses under the head of coroners' inquests amounted to £1593. 8s. 6d.

Mr. ALLEN then read Mr. Baker's letter, which was alluded to in this report, which was in the form of a reply to a resolution which had been passed by the guardians of the poor of the Whitechapel Union, to the following effect:—

"That understanding that of late frequent inquests have been held on persons dying of cholera, without any suspicion of death having arisen from improper causes, they desire to express their objection to such a course of proceeding."

This resolution had been forwarded to that bench by the clerk to the board of guardians. In this letter Mr. Baker contended that the inquests he had held had been necessary, and, although said to be cases of cholera, had been warranted by the accompanying circumstances of each particular case. He enclosed a copy of the instructions which had been issued by the General Board of Health to the clerk of the Keynsham Union, for the satisfaction of the committee, and to show that the holding of such inquests had been in conformity with those instructions. Mr. Baker's letter then proceeded thus:—

"It will be seen from the late returns of the Registrar-General, that in Poplar alone there were in one week no less than forty deaths from cholera, arising chiefly from a flushing of the sewers, bad cleansing, and other preventible local circumstances, and that in but two or three cases inquests were held. . . . . It may convey some idea of the nature of my duties by stating some cases which occurred in Ratcliffe. The cholera was rife in a variety of dirty courts, called Vine Court, Harris Court, &c., and the medical officer (Dr. Barnett) desired the Board of Health to give particular instructions for the whitewashing and fumigation of two houses. The duty was entrusted by the board to an inspector of nuisances, who had been recently appointed; but that person, not thinking such a proceeding to be neces sary, had not had the operation performed, and the next day three in those two houses were seized with cholera, and all of them died. Upon the inquest, Dr. Barnett declared in his evidence, that if the directions had been attended to the cases might not have occurred, and at any rate they would not have been so virulent. This is only one of many instances of similar neglect on the part of boards of guardians, commissioners of sewers, local boards, agents, officers, scavengers, and others; and I may safely say, that if the most strenuous exertions had not been made use of by me in the inquiries I have instituted, and the letters I have written to all parties who are in fault, it is my firm belief that the mischief would have been infinitely greater, and more widely spread on this side of the water, where it has been considerably less than on the other. . . . . One word more before I close, on the subject of 'poisoning cases." Poisoning by arsenic has unfortunately of late years assumed in this country a character of the most appalling nature. It has been a matter with me requiring the most powerful, I may say the most painful consideration, that the main features exhibited in cases of cholera, such as sickness, violent retching, and extreme pain in the bowels, are precisely those which are exhibited in cases of poisoning by arsenic or other mineral poisons; and where the symptoms are not of that marked character which would enable common observers to descriminate between them clearly, every case of a doubtful kind would seem to court inquiry. Only a few days ago I had a case which three medical men declared to be a case of cholera; but on the completion of the evidence the jury decided that it was a case of poisoning. This was the case of a medical man who had been suspended from his office under a board of guardians, for not attending Mr. Grainger, the medical officer of the Board of Health, and he was shown to have taken prussic acid. The utmost caution is at all events requisite on the part of the coroner, and I can only assure the auditing justices that the utmost powers of my mind have been, and will continue to be, strained to exercise my best judgment as to the necessity and propriety of inquiry in any case which may be brought before me."

Another letter was then read, also from Mr. Baker, addressed to the Secretary of State for the Home Department, upon the same subject; as was the circular from the Board of Health respecting inquests in cases of cholera.

Some discussion arose on the subject, but the result was that the expenses were, on the motion of one of the magistrates, ordered to be paid. We shall probably take an opportunity of referring to these cholera inquests, as they show that medical fees form a very small item in the enormous expenses which are thus thrown upon counties.

MORTALITY FROM CHOLERA AMONG THE INSANE.

It has been remarked that among all the hospitals of Paris, none has suffered so severely from the effects of cholera as the Salpétrière. From the month of March until the 31st August there had been in this Institution alone 1368 deaths; *i. e.* one-third of the inmates had been cut off by the disease. Out of 4500 inmates, there were 1500 insane, among whom there were 335 deaths, leaving 1033 deaths among the 3000 infirm and aged females. The deaths among the latter were therefore 34 per cent., and among the former 22,—a difference easily understood, from the age of the majority of the female inmates. Most of the insane patients were females in the prime of life, and the death of so large a proportion from the disease proves that the Institution must have been infected by the choleraic poison in an intense and aggravated form. At the Bicêtre, also a lunatic asylum, the mortality was not so great: there were only 38 deaths among 791 insane patients.

LIFE ASSURANCE AND CHOLERA.

The fear of death from this fell malady has had a material effect upon the business of the best assurance offices; as, to use a common expression, there has been quite a "run upon them" during the last two months. It is satisfactory, however, to state that the claims upon these companies on account of cholera, and, indeed, on account of deaths from all causes, have not exceeded the estimated mortality at this season of the year, when the number of deaths from all maladies is periodically greater than at any other period of the twelve months.

*** This is not quite correct. There is the greatest amount of illness in summer, but the greatest number of deaths occur in the winter quarter. The deaths in the former season are to those in the latter as 1008 to 1169.

DEATHS FROM CHLOROFORM.

An accident of a very melancholy nature has just occurred in Glasgow. Dr. Adams, Resident Physician to the Clyde Street Hospital, having occasion to use chloroform, inhaled it himself to try its strength, but without any serious consequence; repeating, however, this experiment, and incautiously increasing the dose, the effect was fatal: he fell back, and immediately expired.—*Med. Times.*

On the 23d August, Mdme. Labrune, a healthy married woman, residing at Langres, in France, died from the effects of chloroform vapour. She wished to have a tooth extracted, and prior to the operation inhaled the vapour, which was given to her at her own desire. Complete insensibility was not produced at the first trial: more chloroform was placed on the handkerchief, and she drew a full inspiration. Her countenance immediately became pallid; her features were visibly altered; there was dilatation of the pupils, with a convulsive rolling of the eyes, and no pulse could be felt. Every attempt was made to restore life, but without success. She died as if struck by lightning.—*L'Union Médicale*, Sept. 8.

LIVERPOOL MEDICAL ASSOCIATION. TESTIMONIAL TO MR. CRIPPS.

The Association of District Medical Officers of Liverpool, on Wednesday last presented Mr. Cripps, of Soho Street, with an elegant silver salver, designed by Mr. Mayer, Lord Street: it is of the most exquisite workmanship, and bears the following inscription:—"Presented to Frederick Cripps, Esq., by the Medical Officers of Liverpool, as a mark of their esteem for services rendered by him, in the capacity of President of their Association. August 1849."

THE MANUFACTURE OF GREEN TEA, AND ITS ADULTERATION.

It is well known that many inferior varieties of tea are dyed green by the Chinese, in order that they may fetch a higher price in the English market under the name of green tea. An eye-witness of the process thus describes the Chinese plan of making any kind of tea green:—Four parts of powdered gypsum are mixed with three parts of indigo, also in fine powder. This forms a light blue powder, with which the tea is impregnated by the hands of workmen during the last process of roasting. A greenish coloured bloom is thus spread over the leaf. In order that green-tea drinkers may calculate the quantity of plaster of Paris and indigo which they thus consume annually, the writer furnishes the following statistics:—To fourteen and a half pounds of tea one ounce of the colouring matter is added. Hence, for every hundred pounds of green tea, the consumer really eats (?) more than half a pound of gypsum and indigo. In some instances, as announced by Mr. Warington, Prussian blue is substituted for indigo. It would be well if all adulterations of articles of daily consumption were of the same innocent description.

DISCOVERY OF A TRIBE OF MEN WITH TAILS.

M. Du Couret has recently communicated to the Academy of Sciences, an account of the existence of a race of men in Central Africa, called the *Ghilánes*, who possess the appendage of a tail, which, according to him, is about four inches in length (one decimetre). He gives the following description of his examination of one of these tailed specimens

of the human race:—"The Emir sent for one of his slaves, named Bellal, who was about thirty years of age, who possessed this tail, and who belonged to the race. He spoke Arabic perfectly, and was very intelligent. I examined him, and was perfectly convinced. He informed me that his country was beyond Sennaar, and he estimated the number of his race at about thirty or forty thousand. He described them as idolaters and cannibals." M. Du Couret presented a drawing of this slave to the Academy. He concludes his narrative by stating that it would not be difficult to procure some individuals of this race of men, by application to the slave merchants who explore the countries on the borders of the Red Sea.—*Athenæum.*

M. Du Couret does not state whether the females of the race are also provided with tails. His suggestion of procuring a specimen is worthy of the notice of some enterprising exhibitor connected with the Egyptian Hall.

APPOINTMENT IN UNIVERSITY COLLEGE.

Dr. W. B. CARPENTER has been appointed Professor of Medical Jurisprudence in University College, in the room of the late Dr. Anthony Todd Thomson deceased.

MEDICAL APPOINTMENT—GUY'S HOSPITAL.

THE office of Surgeon to Guy's Hospital, vacant by the death of Mr. Aston Key, has been filled up by the appointment of Mr. John Hilton.

MEDICAL APPOINTMENT—ST. THOMAS'S HOSPITAL.

THE vacancy in the office of Physician to St. Thomas's Hospital, occasioned by the death of Dr. Henry Burton, has been filled up by the appointment of Dr. J. Risdon Bennett, one of the assistant-physicians.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 6th September, 1849:—Henry Swift, Farnsfield, Nottinghamshire—Theodore Henry Stratten Royle, Stanfield, Norfolk—Thomas Stokes Guppy, Sidbury, Devon—Philip Henry Tribe, Bristol—Richard Barwell, Norwich.

OBITUARY.

ON the 3d inst., after a few hours' illness, Michael L. Mason, Esq., surgeon, 5, High Street, Newington; an old and much-respected practitioner.

On the 1st inst., at Stockwell, Surrey, after a few hours' illness, Dr. James Leatham Clarke, surgeon R.N., late of Her Majesty's ship Hydra, in his 41st year.

On the 4th inst., John Morgan, surgeon, Ordnance Hospital, Dover, late of Royal Artillery, aged 71, sincerely beloved and lamented by his relatives and friends.

On the 7th inst. at his lodgings, 23, Elizabeth Street, Pimlico, Patrick Magovern, Esq., late surgeon, R.N., formerly of the county of Cavan, in Ireland, and brother of the late Roman Catholic Bishop of Ardagh.

On the 6th inst., at his residence, Sunbury, Middlesex, Robert Broxholm, Esq., surgeon, in his 71st year, deeply respected and lamented.

On the 8th inst., in St. James's Square, Dr. Drever, M.D., aged 76.

ON THE BENEFICIAL EFFECTS OF CHLOROFORM IN THE TREATMENT OF CHOLERA.

SIR,—I beg particularly to call the attention of the profession to the internal use of chloroform in the present epidemic. I, as well as some medical friends in this town, have used it very extensively, both in the premonitory diarrhœa and in the collapsed stage, with very extraordinary benefit. It should be given, mixed with mucilage, in doses of from ℿv. to ℿxv. every hour or two. *One dose* will frequently stop the *diarrhœa and sickness.* The patient should drink *plentifully* of milk and cold water, with a little sesquicarbonate of soda in it. The warm bath, with a large quantity of common salt in it, frequently repeated, is a valuable auxiliary. But *Chloroform* is *the* remedy.

I am quite aware that Mr. Brady, of Harrow, and others, used the same remedy successfully in the course of the last winter.

I remain, sir,

Yours obediently,

JOHN DAVIES, M.D.

Hertford, Sept. 12, 1849.

*** Will our correspondent state more explicitly the effects of the medicine, the degree of benefit which it appeared to exert over the disease, and the number of cases in which he has found it successful.

Selections from Journals.

EXTRAORDINARY RECOVERY FROM A SEVERE INJURY. BY H. HUTCHINSON, SHAHABAD.

A COWHERD was attacked by a buffalo, and had his abdomen ripped up, and a wound of about five inches inflicted, out of which several feet of intestine had protruded in a confused mass. On reaching the hospital, where I had directed the man to be removed on hearing of the accident, I found him in a most deplorable state, almost insensible, pulse very weak and fluttering: an immense mass of intestine, covered with blood and dirt, was hanging out of a wound below the umbilicus about five inches in extent. As a matter of course, but without a hope of effecting any

permanent good, having first carefully washed and cleaned the intestines from the grit and dirt which was upon them, I returned them into the abdomen—a matter of no small difficulty, as there was a constant tendency to come out as fast as I put them in. At last I succeeded in securing the wound with sutures, and I put a wet cloth over the large tumor caused by the returned intestines, and bound a roller several times round the body, to relieve the outward pressure which the intestines had upon the wound, and which I feared would cause the sutures to give way. After this I left the man, with directions that he should be kept very quiet, and should be supplied with drinking water when he called for it, as his thirst was very great. On my next visit to him I found him very low, his tongue dry and parched, considerable anxiety of countenance, skin dry: the tumor was just as it was when I left him, only more painful. I directed it to be covered with leeches, and I ordered an enema to be administered: the latter had good effect, and emptied the rectum. On my next visit the man appeared somewhat easier; but as there was still great tenderness, the leeches were again applied, and followed by hot fomentations: the enema repeated. After this visit there was no more occasion for leeches, the bowels presently acted by themselves, the tumor gradually subsided, and the sutures came away, and at this date the wound is granulating very healthily: the abdomen presents no irregularity, the bowels are regular, and there is no constitutional disturbance. Bleeding from the arm was not resorted to in this case, on account of the man being so low after the injury, and he was moreover a very spare man, and I thought that general bleeding would very probably have prevented the constitution from rallying, and carrying on the reparative process.—*India Medical Journal.*

BOOKS & PERIODICALS RECEIVED.

On the Mode of Communication of Cholera. By John Snow, M.D.

Journal de Chimie Médicale. Sept. 1849.

Comptes Rendus. Nos. 7, 8, 9—13th to 27th Août, 1849.

The Beauties of the Boyne and Blackwater. By William R. Wilde.

Observations upon the Sale of Arsenic, and the Prevention of Secret Poisoning. By James Tunstall, M.D.

Traitement de la Fièvre Intermittente.

La Presse Médicale. No. 37; 9 Sept. 1849.

The New York Journal of Medicine. July.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Sept. 5.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	636	Males....	1460	Males....	513
Females..	665	Females..	1723	Females..	495
	1301		3183		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	3183	1008
Specified Causes	3181	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	2469	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	40	36
3. Brain, Spinal Marrow, Nerves, and Senses	120	115
4. Heart and Bloodvessels	30	38
5. Lungs and organs of Respiration	85	81
6. Stomach, Liver, &c.	73	68
7. Diseases of the Kidneys, &c.	15	8
8. Childbirth, Diseases of Uterus, &c.	14	11
9. Rheumatism, Diseases of Bones, Joints, &c.	7	6
10. Skin	2	1
11. Old Age	50	32
12. Sudden Deaths	10	8
13. Violence, Privation, Cold, &c.	26	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsions	46
Measles	14	Bronchitis	27
Scarlatina	27	Pneumonia	45
Hooping-cough	23	Phthisis	108
Diarrhœa	272	Lungs	5
Cholera	2026	Teething	19
Typhus	52	Stomach	9
Dropsy	14	Liver	12
Hydrocephalus	38		
Apoplexy	20	Childbirth	6
Paralysis	21	Uterus	6

Remarks.—The total number of deaths was 2175 above the weekly summer average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·88

,, ,, ,, Thermometer[a] ..... 64·1

Self-registering do.[b] .... Max. 96° Min. 36°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·63—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 6.°3 above the mean of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Mr. Frederick Martin's report of a case occurring in Guy's Hospital will be inserted in the following number.

The case of the Italian Refugees is altogether unfitted for the pages of a medical journal.

Will Dr. England send us a copy of the case. It can then be inserted.

We have not room this week for the report of the Proceedings of the Plymouth Board of Health. It shall appear in our next number.

Mr. J. H. Cooke, Shrewsbury.—We shall have great pleasure in inserting a short abstract of M. Gondret's method of treating Intermittent Fever by dry cupping.

Poor Law Guardians and Cholera.—The letter on this subject reached us too late for this week's number.

Mr. M. Jennette, Birkenhead.—The paper will be inserted.

Mr. H. B. Norman's communication will have early insertion.

The new Disinfecting Apparatus mentioned at page 392 in our number for August 31, is the invention of Messrs. Heathfield and Burgess, and not of Mr. Charles Watts, as there stated.

FELLOWS' PRIZE REPORTS OF CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL, SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Charles Crouch, æt. 27, admitted Wednesday, April 23, 1845, under Dr. Williams.

Case. — *Albuminuria—Pneumonia—Congestio Hepatis.*

Of a moderate stature; conformation stout and muscular; temperament scrofulous; complexion fair, but sallow. His occupation is that of a brewer, which he has followed for at least 20 years, without interruption, up to the last fortnight. He is a single man. He has been accustomed to drink about Oj. beer, and a quartern of gin daily. Occasionally, but rarely, intoxicated. Has always had enough food, and sufficient clothing. He sleeps well, generally 12 hours in health. Is of a cheerful disposition. Has resided up to a fortnight since at 32, Jubilee Street, Chelsea, which is a dry and open situation. Has lived in London all his lifetime.

Hereditary predisposition.—His father died of some disease of the chest, æt. 62. This was accompanied with expectoration of blood and otorrhœa. He was much emaciated at the time of his death. His mother died of rheumatic gout. His brothers and sisters, so far as he knows, are healthy.

General health.—He himself has generally been healthy; has had occasional coughs. Has now and then suffered from headaches, especially at night time, with vertigo. Never had rheumatism, and with the above exceptions does not remember to have been ever seriously ill.

Present attack.—About a fortnight since, for some reasons not stated, he left the brewery where he had been up to that time employed. The consciousness of being out of work preyed very much upon his spirits, but his health was otherwise good. About two or three days afterwards he says he felt as if somebody had hit him very violently upon his left parietal protuberance. He acknowledges this to be a mere supposition, however, as no one was near him at the time. Immediately afterwards he was seized with an inclination to run forwards. He attempted to restrain himself, as he was quite conscious at the time, but the inclination was so strong he was unable to resist it. There happened to be a canal in front of his house. In this he threw himself, and swam across. Arrived at the opposite side, he threw himself upon the ground to see if he could keep quiet; but he was forced to get up. He swam across again, and then ran away. He continued to run in this manner more or less quickly till night, when he got into some shed to rest; but the next morning was off again, the inclination to run forwards compelling him to do so. He tried to resist it, but could not, as he seemed to hear a voice crying out to him from behind, "Go it again." He continued in this state for several days, wandering chiefly through Islington and the city. He denies having tasted food all this time, excepting four cups of coffee, taken on four consecutive mornings, given him by a publican of his acquaintance. He could not eat bread, for he had no appetite. About seven days back he was seized with spitting of blood, and brought up at one time as much he supposes as half a pint. It did not come up with vomiting, but with a slight cough, and its colour was of a florid red. He continued to spit up this same amount for four days successively. From this time the quantity diminished to about a wine glass. He adds that since the hæmoptysis came on his mouth and teeth have in the morning been covered with blood of a dark black colour, but what he has spat up during the day has been of a florid red. On the occurrence of the hæmoptysis the inclination to run forwards in great measure subsided. He had subsequently sought admission in the hospital.

Present state.—Frequent tremors. He sometimes feels very hot, but does not sweat. At other times he is very cold, and his hands and face assume a livid hue. Some general pains about the legs and arms. Feels very weak and tired. He is extremely restless, so that he cannot remain long in any one position. The colour of the skin over the trunk is natural, but the temperature is pungently hot, almost burning to the hand when applied to it. The temperature in the right axilla 102°, in the left 100° Fah. No eruption; no impaired or increased sensibility. He states he is much thinner than formerly, but he looks very stout. On attempting to sit up in bed he feels very faint. No anasarca or rigidity of extremities. No headache. His intellect appears to be quite clear, and his answers perfectly collected and reasonable when his attention is fixed; but if left alone for a little while he falls off in a dose, and begins to talk in his sleep. The expression of his countenance is heavy and suffused, looking at the distance as if it were livid; and this appearance seems to be more manifest at some times than at others. Thus on his first admission his extremities were very cold, tremulous, and livid, and his face also; but after he had been in the hospital for an hour, a reaction seemed to take place, and he became pungently hot as be-

fore stated. There is no spinal tenderness. Respirations 50 in a minute. Every now and then he appears to be gasping for breath, though he does not complain of dyspnœa or pain in the chest. States he coughs, but this was not observed while he was in the hospital. While his history was being taken, he expectorated a quantity of rusty sputa mixed with blood. His voice is hoarse, and his manner of speaking hurried and by starts. Posteriorly on percussion there is dulness on both sides. The breath sound is weak, and mixed with fine crepitation on the right inferior back; puerile on the left. Puerile also in front under the left clavicle. There are occasional palpitations at the heart, but no pain. The heart sounds are quite natural. The pulse weak and very compressible, 130 to 140. The mouth is much parched. The tongue has a singular appearance. In the centre is a broad red stripe, quite clear, but dry. The edges are covered with a thick white fur. Posteriorly it is black. The line of demarcation between these appearances is very distinct. The throat is very sore, and there is much difficulty of deglutition. Feels very thirsty. Some tenderness in the epigastrium, and increased dulness on percussion in the region of the spleen low down. The liver reaches about two inches below the margin of the ribs. The patient has been sick once, the vomited matters being very green, sour, and smelling like bile. Stools very offensive and dark coloured. He states he makes water very freely.

Supposed exciting cause. — He is not aware of any cause, save his low spirits, consequent on his loss of employment; he had not been excited by drink or sexual excess prior to this attack. Indeed, he had felt quite well up to the moment when he felt as if somebody had hit him violently on the head, as above stated.

Treatment.—℞. Hydrarg. Chlorid. gr. v.; Ext. Conii, gr. v. ft. pil. ij. hac nocte sumend. Low diet. To be bled to ʒxvj. if he can bear it.

The pulse becoming very frequent and weak, and finally intermitting, he was only bled to ʒxj. or ʒxiij., after which he fell asleep. In his sleep, however, he was raving and swearing. He continued much in the same state till evening, when he became violently delirious. In this state he got up and drank with avidity some toast and water by his side. He then began to swear, and was in the act of throwing the jug at the night nurse, when he fell down exhausted. He was put to bed, and the strait jacket applied. He gradually sank, and died at ¼ past 11 P.M. In his delirium he seemed to allude to some losses of money, and called out frequently for gin, and once for something to eat.

Sectio cadaveris 15 *hours after death.*—No emaciation. The body, on the contrary, is fat and muscular. The skin of the natural colour. Cadaveric rigidity well marked; the hands firmly clenched. On removing the calvarium, and puncturing the dura mater, ʒvj. of serum exuded. There was considerable vascularity of the brain. The brain was somewhat softer perhaps than natural, with more red puncta than usual. In other respects healthy. The lateral ventricles contained about ʒj. of serum. The cerebellum perfectly healthy. Weight of the brain lb. iijss.

Thorax.—There was some recent coagulable lymph effused over both pleuræ. Considerable effusion in the right cavity of the pleura.

Lungs.—Some recent coagulable lymph of a yellow colour at the base of the *right lung*. Hæmorrhagic puncta all over the surface. There was hepatization of the middle lobe. Some old tuberculous lesions at the apex of the lung. Weight, lbj. ʒx. The *left lung* contained a cavity at the apex capable of holding a hazel nut. Clusters of grey tubercles with opaque yellow spots in their centres. The lower lobe of the left lung was of a blood red colour, as if there had been hæmorrhage in its substance, but it did not sink in water. Weight, lbj. ʒx.

The *pericardium* contained some serum. There were some points of ecchymosis near the surface, especially towards the base. The valves of the heart were healthy; if anything, the columnæ carneæ were softer and thicker than usual. Both ventricles were nearly empty, the right containing only a very small clot. Weight, ʒxiij.

The liver was very large, extending to fully 1½ inches below the margin of the ribs. There was considerable congestion at the lower part. Superiorly one or two opaque spots, and apparently also some opaque deposit in its substance. The gall bladder gorged with bile. Weight, lbiij. ʒv.

Spleen quite healthy; rather large. Weight, ʒviij. ʒiij.

Kidneys.—*Left* very pale, and somewhat mottled. The proper tunic peeled off smoothly from the anterior surface. Some points, however, of the cortical substance adhered to it when pulled off from the posterior portion. Larger and softer than usual. Weight, ʒviijss. *Right kidney* presented much the same appearance. The substance was flabby. Weight, ʒvj.

The stomach and intestines generally healthy, excepting at the upper part of the cæcum, where the mucous membrane was much redder than natural, with ecchymosed spots beneath it. The colon full of liquid fæces.

The urine was examined after death: a sufficient quantity could not be obtained

to take the specific gravity. There was no excess of phosphates or urea. It was pale, hazy-looking, and intensely albuminous.

Remarks.—The previous history of this case was only obtained from the patient himself; but there is reason to believe in the main it was true:—1st. the exact manner in which he repeated the same account at different times; 2d. the consideration that he was much too ill to invent it; 3d. that on his admission his clothes were all covered with dust and pieces of shaving, giving the man all the appearance of having slept in out-sheds,—were all circumstances that gave countenance to this consideration. There is reason to believe, however, from his ravings and occupation, he was by *no means a sober man.*

Diagnosis.—It was evident he was labouring under pneumonia. 1st. There was considerable pyrexia present. 2d. The respirations were fifty in a minute, and attended with dyspnœa. 3d. The expectoration was rusty. 4th. There was dulness on both sides behind, with fine crepitation on the right back, and the respiration was puerile in other parts of the chest.

The question, however, arose,—Was the pneumonia the primary affection, or was it secondary to an attack of continued fever or typhus? In the first case, the adynamic type of the pneumonia was to be explained by its occurrence in a subject debilitated by excess; in the second case, by its connection with typhus.

There were symptoms which were common to both affections: the great exhaustion present, delirium, quick and weak pulse, the black and brown tongue. There were other symptoms which bore particular resemblance to typhus: 1st. the character of the blood drawn, which was dark and dusty-looking, and sizy, like currant jelly; 2d. purging, and tenderness of abdomen; 3d. the suffused appearance of countenance; and lastly, the tremors of the extremities, so frequent in drunkards affected with typhus. On the other hand, these symptoms might be present from other causes—namely, albuminuria; and there were other symptoms scarcely applicable to typhus:—1st. A great amount of dyspnœa and hurried respirations, for when pneumonia occurs in connection with typhus, the system has not strength sufficient to express either so decidedly; 2d. The great heat of skin, 103° Fah., is, so far as we are aware, uncommon in typhus. Thus, notwithstanding the exhaustion, as the symptoms peculiar to the pneumonia existed in so marked a degree, and prominently so, the case was considered to be one of simple pneumonia occuring in a debilitated subject.

The immediate debilitating cause appeared to be albuminuria. His habits and occupation gave a colour to the belief he was a hard drinker. Though no urine could be obtained at first, there were general symptoms that indicated disease of the kidney. When the kidneys are extirpated, it has been shown by experiment that after a space varying between five and ten days, very copious and liquid evacuations from the intestines take place, with vomiting: the motions are of a dark brown colour. There is fever, with heat varying from 92° to 110° Fah. The pulse is very small and frequent; breathing laboured; and the blood is more watery than usual. In addition, the intellect is dull and heavy; and, indeed, if no compensating excretion is carried on from some other part of the body, there is actual narcotism produced. Similar results would evidently be observed where the excretion of urine was arrested from any cause; but if the kidneys in any manner acted imperfectly, we should be led to expect symptoms similar in kind though minor in degree. Now, all these symptoms were present in Crouch to a marked degree. The case was, therefore, considered as one of pneumonia occurring in a subject affected with Bright's disease of the kidney.

Prognosis was decidedly bad. The pneumonia was double, and there was much febrile excitement. The probable affection of the kidneys was a serious complication. The blood was poisoned; and while depletion seemed to be urgently demanded to relieve the dyspnœa present, and diminish the fever, the probability was that the now partial exhaustion would, if the depletion was made, become extreme. On the other hand, supposing the case to be one of typhus, the state of the liver called for the most unfavourable prognosis, since in those cases of typhus where congestion of the liver occurs, and bilious vomiting, &c., indicating general disorder of that organ, without any particular pain in it, the termination is usually fatal.

Treatment was founded on the above diagnosis. It is usual to bleed in most of those cases where the blood is poisoned, and there is much inflammatory fever, yet the patient was much debilitated, and it was uncertain whether he could bear it to any extent. He was therefore ordered to be bled to ℥xvj., but less if symptoms indicating exhaustion presented themselves. The calomel was ordered, to prolong the antiphlogistic effect, and at the same time with a view to relieve the congestion of the liver. It was feared that the treatment might prove too energetic, but as the dyspnœa was very urgent, it was also feared, if it was delayed, death from suffocation would result. The event proved the correctness of these fears: prostration with excitement resulted, a complication frequently observed in drunkards in whom depletion is carried to any

extent. He became furiously delirious, and at last seemed to die from pure exhaustion.

The post-mortem appearances confirmed the diagnosis made during life. There were appearances which might belong consistently both to typhus or pneumonia occurring in a debilitated subject: the congestion of the brain and its membranes; the softness of the brain itself, and some of the glands; the general fluidity of the blood, but the granular degeneration and flabby condition of the kidneys; 2d. the diseased liver also granular; 3d. the hardness and consistence of the spleen; 4th. the absence of any ulceration to account for the diarrhœa in the intestines; and lastly, the albuminuria present, were all circumstances which, taken together, entirely explained the nature of the case, and necessitated not the presence of typhus to account for any of the symptoms.

The variety of Bright's disease present.—There is, perhaps, no disease of which the varieties, and particular causes of those varieties, are more confused than in Bright's disease. Dr. Williams's researches have, however, elucidated many of these. The variety was evidently that where the cacoplastic deposit is mixed with fat. The granular matter in these cases appears to be lymph, and plastic in kind: sometimes more or less so. When less plastic, the matter first thrown out is soft, causing enlargement and coarseness of texture. By and by it changes: the deposits follow the usual rule, and contract, leading to atrophy from constriction of the vessels. This is the general case, but where fat is intermixed with the plasma this contraction is not equally apparent, and the kidney is larger than usual. Thus, in this case, the pale and flabby, somewhat mottled appearance of both kidneys, the partial adherence of the substance of the kidney to the capsule, were characteristic of Bright's disease of the kidney, but the cause of the enlargement and increased weight was due to intermixture of fat. Microscopic investigations have proved more than once the accuracy of this explanation.

Causes of Bright's disease.—The causes appear in this case to have been those generally in operation among drunkards:—1st. drunkards eat but little, or, by reason of the irritation about the chylopoietic viscera, the whole nutrition is defective; 2d. the vital organs, especially the kidneys, are over stimulated at first, till their function is improperly performed. The blood thereby not being properly epurated, another influence is put in operation, by which the nutritive function is still further depraved. The result of this is the deposit of cacoplastic matters in the organs, the irritation in which, and the weakness of which, seems especially to attract it; for the injured organ is the first to suffer, and becomes the subject of cirrhosis or granular degeneration.

Causes of the pneumonia follow from the above:—1st. The blood was depraved, from the retention in it of excrementitious matters. It irritates thus the parts through which it circulates, and a weak organ will be sure to suffer. The lungs were predisposed to inflammation from the presence of tubercle. 2d. The father having died of phthisis, he had also the hereditary predisposition to disease of the lung.

There are, lastly, two symptoms which occurred in this patient worthy of notice. The first—the peculiar disposition he had to run forwards. If his account be true, it shows that mere functional derangement alone, depending on some irregularity of the circulation, will produce this singular effect. Physiologically, the experiments of Flourens went to show that there were two parts of the brain to which this function or inclination to run forwards might be referred. When portions of the cerebellum of rabbits were removed in slices superiorly, the animal fixed itself firmly to the ground, with a view to prevent itself from going forward. Here, though the brain was carefully examined, no peculiarity was observed in these parts: there was some congestion present, but it is difficult to connect the general softening, hæmorrhagic function, or the small quantity of fluid found in the ventricles, with this singular symptom, since these lesions are frequently observed without any such result following.

As to the hæmoptysis or hæmatemesis:—The thoracic part of the œsophagus and the stomach were healthy; the lining membrane of the larger bronchi presented no peculiarity: still tubercular lesions were observed in the lungs, and the florid red colour ascribed to it, and ejection by cough of the blood, favours the supposition that it came from the air passages. On the other hand, the spleen was much enlarged, and after death was found to weigh ℥viij. 3ij., or about ℥ j. above the average, and might have caused hæmatemesis.

Mode of death was cardiac syncope, by tonic spasm. This was evident from the empty state of the ventricles, and their contracted state. The whole body, indeed, was firmly rigid, and the fingers firmly clenched. This is sometimes the mode of death in adynamic fevers (Dr. Williams).

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination, and received certificates to practise, on Thursday, 13th Sept. 1849:—John Merriman Fewkes, Barrow-upon-Soar, Leicestershire—William Robinson, Gateshead, Durham—Robert Wailes, Leeds—Thomas Wade, Hull.

Original Communications.

THE INEFFICIENCY OF THE CALOMEL TREATMENT IN CHOLERA.

To the Editor of the Medical Gazette.

SIR,—I have a very strong objection to appearing as a writer upon questions which are powerfully agitating the public mind, and I have consequently felt more than usually disinclined to address you at the present time upon the subject of cholera. But when hundreds have died, and are still dying around me, the weight of responsibility appears to me so awful, and the sense of duty so overpowering, as to compel me to lay aside all private considerations, to send you the following statement of facts, and the simple expression of opinion which succeeds it, for insertion in your journal at the earliest possible opportunity.

I am far from doubting the authenticity of the facts mentioned by others, however much opposed the result of their experience may be to my own; nor have I any reason to question that they will accord to me an equally honest desire to state the simple truth. The result, then, of my observation of the now general method of treating cholera (almost solely by calomel) has been so mournful, so woefully depressing to my mind and spirits, that I feel assured I should fail in my duty to our common humanity if I did not make it known to the professional public at large. It may be premised that all the cases of cholera which I have seen have been in consultation with other practitioners. I have seen no patients in the hospital suffering from cholera. In a considerable majority of the cases that I have visited, the disease had already advanced when I first saw the patients. But I have been called to cases in which calomel, in frequently repeated small doses, had been commenced very soon indeed after the onset of the complaint, and to one in which it was administered an hour and a half after the first appearance of the disease, and assiduously continued up to a quarter of an hour of the patient's death; which event occurred only fourteen hours after he had been *perfectly well*. I have seen a great many cases in which the frequently repeated small doses of calomel, and some few in which large doses less frequently administered, had been commenced, and actively persisted in, before I had been called in. With such administration of the mineral, when the patient was already in, or approaching to a state of collapse, I have not usually interfered, for I have considered that it was not likely to be then injurious, and have contented myself with advising the free supply of cold fluids, or of ice; the application of wet towels wrapped round the legs, for the relief of cramps; sponging the body with tepid water, and then covering it with blankets; and the use of any mild nourishment that the patient could take, with a sparing supply of stimulants, preferring others to alcoholic stimulants. I believe that all, or at any rate almost all, the patients so treated have died. So common, indeed, has been this result, that latterly, when, on entering the sick room, I have seen some dozens of powders upon the dressing table, and have found the patient's tongue coated with white, as from so much chalk or carbonate of lead, I have at length assumed that his fate was almost certainly sealed. I regret to express my belief that I have been very rarely mistaken. Such, sir, is the result of my own observation of the treatment of cholera by calomel.

Now, sir, I beg to mention the experience of others in this vicinity, who have been so kind as to favour me with a report of it under their own immediate inspection.

A medical friend and neighbour was induced to try the plan of small frequently repeated doses of calomel by the recommendation of one of the amiable superintendents of the "Board of Health." They were given, as he believes, constantly and regularly, and, as he truly observes, "there is no art and mystery in this administration; nothing can be easier." They were tried in twelve consecutive cases. *All died:* and, he says, died more rapidly than ordinarily, though the patients were of varying ages, and in different stages of the complaint, when the treatment was commenced. He says *emphatically*, "I will never trust to calomel again." Another surgeon significantly observed to me, "Either Dr.

A. is mistaken, or the cholera of Hull is a different complaint from the cholera of Southwark."

A gentleman who perhaps in this present epidemic has seen as much, or more of cholera, in this sadly infected district, than any other person, reports —"I have tried calomel in large and repeated doses in thirty cases brought into the workhouse in a state of collapse: not one of them recovered; and as to the small frequently repeated doses, I had tried them before and found them equally inefficacious." A practitioner of very large experience, indeed, in the present epidemic, as well as in that of 1832, told me that he believed *that calomel had no effect whatever in the cure of cholera*, though it might have some effect in mitigating secondary fever, *if the patients ever arrive at that condition.* Another gentleman exclaimed, "As to calomel, Doctor, you may just as well throw it into the street; I believe it lies on the stomach like so much white paint." I find that those to whom I apply, and who are still disposed to trust to calomel, have rarely had more than one, or at most two or three cases, in which calomel, *when administered alone*, has been successfully employed, though dozens or scores may have died under its use. One gentleman said to me, "I really have seen *two* cases in which I believe it was the means of curing the disease,—one a lady, very susceptible of the action of mercury, the other a child!" "And in how many instances have you tried it and found it to fail?" I inquired. To this he replied, perhaps somewhat loosely, "Oh! in a hundred!" "A hundred to two are certainly great odds!" Now, sir, as I have previously stated, I have no reason whatever to doubt the correctness of the assertions made, or the perfect authenticity of the facts reported by others, and for the statements herein recorded I am myself responsible. There must, therefore, be a mistake somewhere; either the disease is much more virulent and less controllable here than it is in Hull, and in other places in which the small doses of calomel are found to be so wonderfully efficacious, or there must be some other source of fallacy to be discovered. Let, then, those who find calomel *really* efficacious continue its use; but let me entreat those, in this or other vicinities, who find it almost useless, to attempt some other means of checking the disease; for assuredly nothing can be worse than this. If it does no positive hurt, it necessarily entails the undoubted negative evil of preventing other more efficient means being adopted, and of losing valuable, most valuable, time.

Finally, sir, I would express my firm conviction of the communicability of cholera from person to person, independently of locality; whether this communicability be termed "contagion" or "contingent infection," and of the high, the primary importance of stopping the huge drain from the alimentary canal, which drain I believe to be the true and sole cause as well of the collapse, as of the cessation, or diminution of the secretion of bile and urine. For the purpose of stopping this drain, I have myself found nothing so effectual as a large dose of solid opium by the mouth; followed by astringents, ammonia, and opium in a fluid form; together with an enema composed of a small quantity of warm starch, and a full dose of laudanum. If these means are employed early in cholera (and by cholera I mean neither diarrhœa, however profuse, on the one hand, or the collapse of cholera on the other), I believe that they will frequently be effectual in checking the disease. They have certainly been the most efficient remedies that I have myself employed, or seen employed. When collapse occurs, they must of course be laid aside. Then, indeed, calomel may be given, for then it can do no hurt, though I verily believe it can effect no good: then, so far as I have observed, the free administration of cold fluids, together with a moderate amount of stimulants in the form of æther, ammonia, chloric æther, or turpentine, sponging the surface of the body, and wrapping it in warm blankets, are almost the only, or at any rate the best means to be adopted for the possible restoration of the patient.

In three cases only in my own practice has the "packing in the wet sheet" been adopted; in two unsuccessfully, in the third, which certainly was *not* in the stage of collapse, with the happiest results.

I have now done. I have performed what I conceived to be my duty. I have at any rate relieved my mind. I

trust that I shall never have occasion again to address you upon this very mournful subject. As I have merely sent to you a statement of facts as they have occurred to myself, have given the reports of others as they were related to me, and have expressed my opinions, without, I trust, anything offensive to the most dedicately constituted individual, I hope I may be excused the painful task of replying to any objectors who possibly may feel themselves called upon practically to deny, or theoretically to question, the deductions from this communication.

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Assistant-Physician to Guy's Hospital.
14, St. Thomas Street,
Sept. 11, 1849.

NOTES ON

ACUTE INFLAMMATION OF THE STOMACH AND BOWELS,

PRODUCED BY THE INTERMIXTURE OF VERDIGRIS WITH THE FOOD.

By Assistant-Surgeon Moore, B.A.
Gwalior Contingent, Upper India.

The form of disease which prevailed amongst the Indian labourers returning from British Guiana to Calcutta, at the expiration of their contracts of service, may be described as acute inflammation of the mucous membrane of the stomach and alimentary canal. This inflammation, in its symptoms, course, and termination, presented many of the characteristic features of acute idiopathic dysentery.

Origin of the disease on board.—The cause of the outbreak of this particular form of disease at the commencement of the voyage, was attributed by me to change of diet, to change of climate, and to the noxious qualites of the Creek water, the vegetable and animal properties of which were at this time undergoing the process of putrefaction.

Although every precaution was taken to counteract the ill effects supposed to have originated in these causes, yet the complaint seemed to increase rather than to diminish. For several successive days, numerous cases, suffering from the same type of disease, were brought aft for my inspection, by the head men of these Indian labourers.

Perplexed as to the real cause of the disease so rife on board, I was descending the middle hatchway ladder to pay the morning visit to the patients in the hospital part of the ship, when I was stopped by two or three coolies carrying plates loaded with cold rice, and a quantity of rancid ghee. In reply to my questions, by what means they had obtained this cold rice, it was stated that this food had been cooked one or two days previously. When cooked, the rice and ghee mixed together had been laid aside as a reserve store, to eat in the middle of the night or early in the morning, before the daily rations were served out. As soon as this food was thrown overboard by my orders, I examined the copper plates upon which it had been kept, and found the surface coated over with a green incrustation,—evidently one of the salts of copper. Thus, to neglect, and to slovenliness in not cleaning their copper and brass utensils, and to the intermixture of the salts of copper with their food, was distinctly traced the immediate cause of the disease.

If not seen on the surface, we seldom failed to detect, under the rims of their lotahs and thalies, this incrustation of verdigris, in quantity sufficient to be scraped off with the edge of a penknife. By the application of tests, the incrustations were proved to be the sulphates and muriates of copper.

These salts of copper intermixing with their rice, fish, ghee, and pea-soup, produced, in the greater number of cases, a train of symptoms almost similar. At the time of their occurrence on board, the particular symptoms of each case were entered in a medical register. A summary of these symptoms is contained in the following extract from the register:—

Symptoms.—In the evening, or on the following morning, as the case might be, a few hours after having eaten a meal of rice and dholl, those who suffered from its effects were carried to the cabin door, complaining of violent pains and cramps in the stomach and bowels. With these cramps there was a constant vomiting of greenish and yellowish green bile. After the discharge of the contents of the stomach, and these small quantities of bile, dry retching commenced. With ineffectual attempts at vomiting, they suffered from a distressing feeling of constriction in the course of the œso-

phagus, and across the chest, in the direction of the diaphragm. The calls to evacuate the bowels were frequent. Every half hour, or even less, sometimes in the course of twenty minutes, they were forced to go to the ship's chains; but seldom, in the attempt to relieve the bowels, was feculent matter discharged. Blood in small quantities, and slimy mucous stools tinged with blood, were passed from the rectum. Shreds of lymph and frothy ashen-coloured secretions were forced from the bowels by dint of straining. Without affording relief in a single case, these discharges from the bowels aggravated the sufferings of the patients.

In the loins and sacrum, at the navel and in the iliac region, acute lancinating pains have been complained of in each case. With these pains tenesmus, and a burning sensation felt within the rectum, and close to the sphincter ani, were present in all, and were described by the patients to be severe. Pressure made with the palm of the hand over the different parts of the abdomen, in the epigastric region and over the transit of the arch of the colon, in general caused a pungent pain.

The symptoms of acute fever set in immediately after the vomiting and griping pains in the stomach. The patients suffered from headache, urgent thirst, loss of appetite, prostration of strength. The pulse varied from 120 to 140 beats a minute; was small and wiry. The heat of skin was pungent. The tongue was furred and clammy. They complained of a foul, nauseous, bitter taste in the mouth. The conjunctiva of the eyes was bloodshot.

In three cases the quantity of verdigris mixed with the food, and taken into the stomach, must have exceeded that swallowed by the others. The form of attack was more acute. The symptoms and progress of the inflammatory condition of the stomach were more formidable. The depression of the vital powers was more strongly marked. The features of the patient became distorted. His whole frame seemed to writhe under the pain. The pulse was quick, and at the same time so small and weak and thready as scarcely to be felt. The skin became cold; the extremities benumbed; the urine suppressed altogether, or retained in the bladder: when drawn off by the catheter it was high coloured and tinged with blood. One of these cases terminated fatally shortly after the introduction of the poison into the stomach. The second lingered for a few weeks, and died ultimately of chronic ulceration of the mucous membrane of the intestines. The third recovered in part from the effects of the poison, but suffered from extreme debility of constitution afterwards.

Treatment.—The treatment which proved efficacious in arresting the progress of these symptoms consisted in administering immediately an emetic of twenty grains of ipecacuanha, with one grain of tartar emetic; after which the patient was ordered to drink barley water, and conjee or rice-water, in large quantities. There was not a stomach-pump on board, otherwise the contents of the stomach would have been got rid of by its use instead of trusting to the effects of emetics. In six or eight hours after drenching the stomach with mucilaginous diluents, twelve or fifteen ounces of blood were taken away by venesection. The quantity of blood was regulated by the strength of the patient and the state of his pulse. In the evening another emetic, of ipecacuanha alone, was given, and when practicable the patient was put in a tub of warm salt water. On the following day, if an impression had not been made on the acuteness of the symptoms, twelve ounces of blood were abstracted from the epigastric and intra-umbilical regions by means of cupping. Flannels wrung out of boiling water were applied for several hours to the surface of the abdomen; and calomel, combined with purgatives, was given to clear away the contents of the bowels; after which castor-oil, with laudanum, proved more valuable than other purgatives of a drastic nature in relieving the tenesmus and griping pains in the abdomen.

With few exceptions, the violent character of the symptoms originally complained of was subdued by this method of treatment. The acuteness of the fever produced by the irritation and inflammation of the mucous membrane of the stomach and bowels was cut short at once. The pulse became fuller, less wiry, less frequent. The griping, lancinating pains in the abdomen were partially, and in a few instances completely, removed. The

incessant discharges of slimy, bloody mucus from the intestinal canal; and of frothy, ashen-coloured secretions from the colon and rectum intestines, were checked or diminished in frequency. In this, the first or acute stage of the disease, the treatment adopted proved so far successful that the patient's convalescence was established on the eighth or tenth day. This result was noticed in ten cases. But in four cases the recovery was more protracted. A subacute form of inflammation of the mucous membrane, attended by mucous discharges from the intestinal canal, eight or ten in number during the twenty-four hours, kept the patient's constitution in a state of low, irritative, feverish excitement. In the neighbourhood of the cæcum, caput coli, and in the direction of the arch of the colon, pressure with the hand produced pain and tenderness. In two cases the disease ultimately assumed all the features of chronic ulceration of the large intestines.

To combat the symptoms which had arisen from the subacute form of inflammation of the mucous membrane, the cupping was repeated from time to time over those parts of the abdomen where the greatest amount of pain or tenderness on pressure was seated. After the cupping, small mustard cataplasms or blisters were applied. The cuts in the skin were carefully protected. Opium in powder by itself, or opium in powder combined with ipecacuanha and blue pill, afforded relief. The diet in each case was restricted to arrow-root, of which there was an abundance on board. Rice, dholl, ghee, salt fish, articles of daily food, were prohibited; and when the debilitated state of the patient called for additional support, port wine, mixed with arrow-root, was given.

Fatal case of Poisoning by the intermixture of Verdigris with the food.

On the 28th of June, 1843, when we crossed the equator in west longitude 23° 45″, seven weeks sail by the day from Georgetown, Demarara, the native head-man ran to the cabin to inform me that one of the stoutest coolies on board had been seized with violent cramps in the stomach, with cramps in the limbs, with frequent vomiting, and with purging of slime and blood. He was writhing in pain. In the course of the day he had been observed to be slightly ill, and had been heard to complain of gnawing pains in the stomach; but the circumstances were not reported until the frequency of the purging alarmed those who were represented to be his relations.

His sufferings from pains in the stomach, in the intestines, and in the lower half of the rectum, were severe at the time he was seen by me. His features were distorted. The pulse was small, quick, and wiry. He complained of urgent thirst, increased rather than slaked by drinking water; and also of a dry and parched feeling at the roof and back part of the mouth. Constriction of the throat, and tightness across the chest in the direction of the diaphragm, were prominent symptoms.

Judging from the suddenness of the attack, from the general features of the disease, and from a corresponding train of symptoms observed in parallel cases but a short time previously, I did not hesitate to express an opinion as to the cause of the man's illness to my friend, the commander of the vessel. He coincided in my views. We immediately examined his brass and copper utensils: on the internal surface of these there remained a coating of verdigris, sufficient in quantity to convince us that this salt of copper got intermixed with his food, and was the immediate cause of his sudden illness. Of this salt of copper remaining on the plate from which his food had been eaten, there was more than sufficient to produce a similar train of symptoms in other cases had such been mixed with their food.

The treatment successful in former cases was pursued here, but without the same satisfactory results. The relief afforded was temporary. The case terminated fatally.

Extensive and deep-seated inflammation of the mucous membrane, and of the subjacent tissues, was found on the internal surface of the stomach. This inflammatory condition of mucous and submucous tissues extended from the cardiac orifice to the pylorus, and for the distance of an inch and a half on the internal surface of the œsophagus, close to its termination in the stomach. The shades of red varied in different parts from a bright vermilion or bright scarlet to a deep red or violet colour. The patches of dark red, ap-

proaching to a brownish tinge, were small, circular, circumscribed, and situated in general beneath the mucous membrane of the posterior wall of the stomach. The mucous membrane corresponding to these patches was soft, tumid, pulpy, but not excoriated. The surface of the membrane was free from the appearance of having sloughed. At the pylorus the membrane was intensely inflamed and glistening: tumid. from a quantity of serous fluid exuded beneath the submucous cellular tissue.

In the duodenum the appearances were those of intense redness, a state of excessive injection, and congestion of the tissues by a sero-sanguineous fluid. This infiltration did not extend beyond the transverse portion of the intestine. In the mucous membrane of the small intestines, circumscribed patches of redness were found scattered irregularly over its surface. The mucous membrane of the large intestine presented a few of these circumscribed patches of vascularity. In the rectum the inflammatory action had commenced, but was limited in extent.

Within the peritoneal sac somewhat more than eight ounces of saffron-coloured fluid were found. The peritoneal coat of the jejunum and ileum intestines was numerously studded with minute circular dots or specks of a bright red colour. On the upper surface of the arch of the colon, and on its ascending and descending divisions, these crimson-red circular spots were numerous. Between the peritoneal and muscular coats of the stomach an irregularly shaped patch of effused blood was noticed. On the lateral and inferior surfaces of this same viscus, vascularity of the peritoneal coat, with sub-peritoneal exudations of blood and lymph, was traced to a short distance. The folds of the peritoneum were not agglutinated together by lymph,—lymph was not found in the peritoneal sac.

We need not stronger proofs of the poisonous effects produced by the intermixture of verdigris with the food than the details recorded in the preceding case. The symptoms indicated poisoning. The inspection of the copper plates from which the food had been eaten confirmed the opinion expressed. The post-mortem examination cleared away all doubts upon the subject.

Hints to Cooley emigrant agents and families in India.—The strictest vigilance on our part was thus eluded by this man. He forfeited his life by disobeying orders. To prevent a recurrence of similar cases, plates, bowls, and wooden platters, as many as could be collected in the ship, were substituted for these copper and brass dishes. The supply of copper and brass utensils to Cooley emigrants is objectionable. The coolies neglect to clean them for several days successively. Fresh water cannot be supplied by the ships for this purpose. Salt water is reluctantly used: it does not clean the plate according to the ideas of a native. The muriatic acid contained in the salt water, acts upon the copper, and instead of brightening the surface, the more it is scrubbed in with sand and ashes the duller the copper becomes. If allowed to remain for any length of time on the plate or in the vessel, an incrustation of the muriate of copper forms. This salt of copper is as poisonous in its effects as verdigris; but the main objection is, the difficulty of preventing the coolies stowing away by stealth the food which remains in excess:—rice, ghee, salt-fish, pea-soup, and other articles, are heaped in a mess on the same copper plate, and concealed by them for two or three days. During this time the acids contained in the food act upon the copper; verdigris is formed. With the consumption of food, it were strange indeed if some portion of this salt of copper did not get mixed up with it, and thus find its way into the stomach. The effects produced on the stomach and bowels by the eating of a cold mess of this description, were sometimes so serious as to call for active treatment. If to these be added the consequences arising from the intermixture of a salt of copper, however small in quantity, we need not waste words in directing attention to the risk incurred in permitting copper utensils to be used on board ship. For these reasons I have suggested on more than one occasion that the individuals connected with the emigration of coolies from Calcutta and Madras should discontinue the supply of brass lotahs and copper thalies, and should issue in their stead utensils made of tin, of wood, or of delft. If the supply of these articles be one of the items entered in the contracts with the

coolies, I am inclined to believe no objection would be raised by them to receive in hard cash a sum of money equivalent to the value of these brass and copper utensils.

In England, cases of poisoning by the intermixture of verdigris with the food do not frequently come under observation. The servants are careful, cleanly, and, in general, particular in using copper utensils. Such is not the case in India. In Calcutta in particular, and in the N. W. Provinces, I have met with cases amongst Europeans, which bore so striking a similarity in the symptoms to those already mentioned, that little doubt has remained on my mind as to the attack having originated in the intermixture of verdigris with their food, through the carelessness of their servants.

In India, baboorchees, khausamahs, khidmudgars, and musalchees, to whom almost every thing connected with the kitchen is entrusted, are not at all times particular in cooking meals for their European masters in bright unstained copper vessels. They are not always particular in having the kitchen utensils well and properly kulaid. Were more attention paid by European residents in India to the carelessness of their servants in this respect, and were the cooking utensils more frequently inspected by some trustworthy servant in the establishment, we should not hear of so many instances of two, three, or more members of the same family being attacked on the same evening, or in the same night, with symptoms closely allied to those of cholera, or of acute dysentery.

By adopting a system of precaution against such occurrences, a fewer number of families would be placed in mourning from some one member having fallen a victim to the poisonous effects of the salts of copper produced by intermixture with their food.

HONOURS TO MEDICAL PRACTITIONERS IN FRANCE.

By order of the Minister of Public Instruction, the names of the physicians and medical students in France who have fallen victims to their zeal in treating cholera patients, are to be inserted on a marble tablet in the Dupuytren Museum.

CONTRIBUTIONS TO PATHOLOGY.

By W. E. Robbs,
Under-Graduate of the University of London.

[Continued from p. 372.]

3. *Fungus Hæmatodes of the Brain, with effusion of serum in the lateral ventricles, and history of the case.*

The subject of the following case, Richard Smart, aged 36 years, a pauper in the Grantham Union Workhouse, died on the 31st day of August. A sectio cadaveris was made on the same day. The body externally presented a very emaciated appearance, owing to the length of time deceased had been labouring under disease. On opening the head, the skin was tightly contracted, and strongly adherent to the calvarium. The occipito-frontalis muscle and tendon very thin and indistinct; the dura mater was in a natural state; the longitudinal sinus empty; the lateral sinuses filled with dark-coloured blood. The tunica arachnoides of both hemispheres had an opaque appearance, and small fungoid excrescences were to be observed through it, on each side near the middle longitudinal fissure. The interstices between the tunica arachnoides covering the dura mater and pia mater contained a fibrinous effusion. When the hemispheres were separated, a slight escape of serum took place; the arteries and veins in the left hemisphere were much injected. On the edge of the right hemisphere, near the longitudinal fissure, was an effusion of fibrin, extending in breadth three-fourths of an inch, and about four inches in length. The medullary substance was soft, of a pinky hue, and much studded with red points; the cineritious thin and soft. The corpus callosum and septum were thickened, and the latter quite opaque, requiring to be divided by the scalpel. The crura of the fornix contained two large fungoid bodies, composed, as it were, of bulbs of blood-vessels, mixed in a soft cineritious matter. The corpora striata had a wasted appearance, and of a light grey colour; each of the lateral ventricles contained about an ounce of serum. The plexus choroides were pale and ragged. The thalami nervorum opti-

corum, as well as being soft, were small. In the anterior cornu of the right ventricle, a fungus, embracing a portion of the corpora striata, was seen: it was exceedingly soft, and coincided in the nature of its structure with the one before described. The posterior and descending cornua were much distended with serum. The plexus choroides in the right cornua had the same appearance as in the lateral ventricles. In the left posterior cornu, situated over the tænia hippocampi, was a fungoid substance, involving the plexus choroides, about the size of a large grape. The velum interpositum was thickened with effused fibrin, opaque, and adherent to the body of the fornix. The foramen commune posterius was much enlarged, from distension with serum. The pia mater covering the corpora quadrigemina and posterior cornu of the fornix was hard and scirrhous. On the removal of this was to be seen a cyst containing bloody serum, and formed by the corpora quadrigemina. The pineal gland remained. The brain was then removed from the cranium, during which a large quantity of serum escaped. On its upper surface the cerebellum contained a portion of effused fibrin: on cutting into its substance, it was of a soft consistency. On the removal of the pia mater, a congeries of diseased vessels, about an inch in circumference, extended over both lobes of the cerebellum. In the fourth ventricle, a fungus of the size of a nutmeg was placed between the crura of the cerebellum and along the medulla oblongata. Another fungoid tumor was to be seen at the root of the optic nerves, just before their junction. On the right side, in the fossa Sylvii, was a fungoid substance in a state of ulceration.

The chest was then opened: anteriorly the lungs were found to be collapsed, exsanguineous, and of a light buff colour; posteriorly they were darker, and contained more blood. The inferior lobe of the right lung adhered strongly to the pleura costalis and angles of the ribs, as also did the lungs of right side. The texture of the lungs was soft, as if they had been boiled. The pericardium, when opened, contained about two ounces of serum. The heart was small, and a lump of fat was pressed out from the right ventricle. The liver, kidneys, and spleen, were small, and wasted in proportion with other parts of the body. The stomach and bowels were contracted and small, but not otherwise unhealthy. The urinary bladder was much distended with urine.

The poor fellow the subject of the above observations had been labouring under disease of the brain for six months past, during which he had been confined to his bed. At times he was strongly convulsed, and afterwards would lie in a state of insensibility for some hours. Then he would not sleep night or day for three or four days, but ramble and talk all kind of nonsense. Indistinctness of vision he would frequently complain of, and the pupils of his eyes were sometimes observed closely contracted, and at others very much dilated; but latterly he complained of blindness. No doubt, as the fungoid growth increased between the optic nerves, it would press on them and produce paralysis. During his long suffering, his appetite varied much: for many days together he would take scarcely anything but a little fluid, and then he would have a great desire for, and take hastily of, solid food. The bowels were very torpid, requiring strong remedies to cause them to act, and frequent recourse was had to enemas. The urine was discharged regularly till a few hours before his death, when the bladder became paralysed, and lost its power of contraction. He always pointed to his head as the seat of his disease, saying he suffered acute pain there, and wished it could be opened. The stomach sympathised with the state of the brain, which frequently caused sickness, eructation, and hiccup. The disease in all probability had been in existence a long time, as it appeared to advance very slowly. In its progress the whole body suffered, and became at the time of his death wasted to a skeleton.

4. *A case of Puerperal Convulsions caused by Ascarides Lumbricoides.*

Sarah Bradley, aged 18 years, was taken in her first labour on the morning of the 31st August. She was delivered about 4 o'clock in the afternoon of a male child: the progress of the delivery was perfectly natural. About

two hours subsequently she complained of pain in the abdomen, which the nurse treated as after-pains, and administered twenty drops of Tr. Opii. Between 9 and 10 o'clock, six hours after delivery, she was seized with violent epileptic convulsions. The contortions of the face were very frightful, and the jactitation of the limbs so great as to require the aid of two women to keep her in bed. After the convulsions had lasted some minutes she foamed at the mouth and lay in a complete state of insensibility. The pulse was sharp and frequent; the pupils contracted; the face of a dark blue colour. In this state she was bled to sixteen ounces; the blood taken was sized and cupped. After this she became quiet, and, on calling her by her name, placed herself upright in bed, and stared about in a bewildered and frightened state. This kind of consciousness did not last long before she was again most frightfully convulsed, and remained insensible about twenty minutes. On recovering, she complained of violent pain in the stomach, which was not increased on pressure. The abdomen was prominent; the uterus distinctly felt, well contracted, in the hypogastric region. On examination of the uterus by the finger, a small coagulum was found, but no particular sensibility evinced on passing the finger over its anterior lip and circumference. It was found, on inquiry, she had eaten some suet pudding a few hours previous to her delivery, and it was surmised that this might have caused the gastrodynia of which she complained. It was therefore thought advisable to administer Hyd.Chl. gr.v., P. Rhei, gr. xv. statim, and two tablespoonfuls of the following mixture every three hours till the pain was relieved :—℞ Sp. Ammon. Arom.; Sp. Æth. Nitr. aa. ℥ij.; Sodæ Sesquicarb. ʒj.; Aq. Menth. Pip. ℥vss. m. ft. mist. Sinapisms were applied to the pit of the stomach, and a turpentine clyster administered immediately. After the enema had operated, she dosed at intervals, and became more quiet till about 2 o'clock in the morning, when the convulsions returned more strongly than ever. The restlessness and tossing about on the bed was so great that her attendants could scarcely prevent her from throwing herself out. She foamed at the mouth, and her limbs were violently contracted; had bitten her tongue, and lips became very livid. The pulse was frequent, 110 in a minute, soft and feeble. Blood was again abstracted to about twelve ounces, when she turned faint, and broke out in a profuse perspiration. After she became sensible, she complained of a strange sensation in her head and stomach; asked for something to eat, saying she felt very hungry. She continued very restless, at times insensible; moaned and sighed much. The bowels and bladder had been evacuated; the discharge of blood from the womb considerable. The turpentine clyster was ordered to be repeated; a blister to be applied to the nape of the neck, and Hyd. Chl. gr. vj. to be given immediately; also the mixture to be continued. The clyster acted very freely, but the convulsions returned at intervals, although not with so much violence, till about nine o'clock in the morning, when she voided two large worms (ascarides lumbricoides), one measuring in length nine inches, the other eight; the larger being a quarter of an inch in circumference, the smaller a little less. From that time the convulsions abated: the patient now remains in a weak state, but is gradually recovering her strength.

Observations. — Puerperal convulsions always present a most appalling aspect: they produce the most frightful contortions of the face and body; and, if not quickly relieved, threaten the life of the patient. In most cases they are to be attributed to congestion of the vessels of the brain, produced by parturient exertion, together with the pressure of the head of the fœtus on the os uteri, causing great irritation. When epileptic seizures are produced from these causes, they generally begin while the dilatation of the mouth of the womb is going on, or when the head is passing through it. In these cases we plainly have before us the cause and effect, but when they take place some hours after delivery, the cause is frequently latent, and the remedies we employ must necessarily be more conjectural.

Irritation of any kind, when its intensity is great and long continued, may produce convulsions; but when

this is made visible, and the cause removed, the effects will quickly cease. The case just related is one of many others, affording much for consideration and instruction The patient, a young girl of spare habit, and sanguineous temperament, had been suffering from diarrhœa a fortnight previous to her labour, for which she had been under medical treatment. Several doses of calomel, rhubarb, and opium, had been prescribed for her, together with astringent mixtures, which relieved her complaints. At the commencement of her labour, and some days previously, she stated herself to be in health, and the bowels had acted regularly. The parturient pains did not exceed twelve hours in duration, and were not attended with any unusual suffering. The child presented in the first position, and was expelled without any assistance. The placenta followed a few minutes after. It was not surprising, therefore, that the cause of the epileptic attack, some hours after delivery, should be obscure and difficult to detect. The premonitory symptoms were pain in the stomach, and an unusual uncomfortable sensation in the head. She slept a short time very soundly, and snored. Awaking, she soon became insensible, and the attack of convulsions developed itself. On investigation it was found she had evacuated the bladder,—that the womb was well contracted, and the sanguineous discharge had gone on naturally, but rather more profuse than usual. It is a well-known fact, that puerperal convulsions will continue some hours after delivery without any ostensible cause, and at first this was considered one of those anomalous cases. To relieve the congestion of the brain was the first object; and to effect this a quantity of blood was taken from a large orifice in the median vein of the right arm. It was surmised that some irritation in the intestinal canal might be the exciting cause, and therefore calomel with rhubarb, assisted by terebinthinate enemata, suggested themselves as appropriate remedies. The result was highly satisfactory, although at the time no suspicion of worms was entertained. After the expulsion of the vermes had taken place, and the patient recovered her senses, she was told what had happened; it then occurred to her that she had felt at times something crawling about her stomach, and sometimes up her throat. The sensation it produced was very unpleasant, and created the feeling of thirst, which she very freely gratified. After her libations the stomach became very easy, and the cause of her trouble did not further engage her mind.

Grantham, Sept. 4, 1849.

MALFORMATION OF THE HEART.

Dr. Jackson presented the specimen, in which there was seen a free communication between the two ventricle at the upper part of the septum; the right ventricles was much thickened, as usual in these cases, the left being rather thin; the pulmonary artery, also, which appeared small externally, arose somewhat indirectly from the ventricle, and had but two valves, which differed much in size, but were otherwise normal; the aorta was enlarged, and the valves well developed; the heart, lungs and liver, were crowded with blood, which was very dark and thick, but without coagula. The patient was a mulatto child, four years old; almost from birth it had been subject to dyspnœa, with lividity, and frequent paroxysms of severe distress, so that malformation had always been supposed to exist; the action of the heart was regular, and attended with a loud bellows-sound.

Diseases of the heart—Dr. J. also presented another specimen, the case being interesting from the fact of there having never been observed any irregularity or intermission in the action of the heart, notwithstanding the existence of very great valvular disease; the mitral and the aortal valves were about equally affected, ossified, thickened, rigid, and contracted, the aortal orifice being permanently open. In the mitral valves there was a small cavity, connected with the cretaceous deposit, and apparently the result of caries, though there was no ulceration about it, this appearance having already been several times noticed here in similar cases; the right side of the heart was healthy, except for atrophy and perforation of the pulmonary valves, which is here quite common; the left ventricle was much hypertrophied, and the whole organ weighed 21 ounces. The patient was a largely-developed man, 43 years of age, and a carpenter by trade; had suffered from his disease for four or five years, but had worked until the last six months. Distress in the region of the heart was the chief symptom, and for the last two months he was unable to lie down in bed.—*American Journal of the Medical Sciences.*

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 21, 1849.

A CORRESPONDENT has suggested that a few editorial hints might be of service in giving a more useful direction to the inquiries and discussions of Medical Societies in reference to the treatment of Cholera. A very good description of the disease has been given by Dr. Laycock in a recent number of this journal*; and we are inclined to think that the suggestion which he has thrown out regarding the use of sulphate of quinine as a prophylactic—a remedy already proposed by Dr. Little—is well worthy of a trial. Nurses and attendants on the sick, as well as the poor inhabitants of infected districts, who are undoubtedly more liable to attacks of the disease than others, might be preserved by a timely resort to the use of this medicine. Dr. Laycock's view, based on his own experience, that an attack of cholera renders an individual insusceptible of a second, points to the propriety of selecting nurses, as far as possible, from those who have recovered from an attack.

Regarding *treatment*, there does not appear to be any great difference of opinion among practitioners, so far as the premonitory stage, or what some have described as cholera mitis, is concerned. The diarrhœa should be stopped: all are agreed on this point, although a variety of remedies have been employed for this purpose. It is probable that an astringent which will suit one case will not exactly suit another; or that that which will suit an early, will not be adapted to a later stage of the same case. Chalk and aromatic mixtures, opium, catechu, creosote, acetate of lead, iron, matico, chloroform, and other preparations, have had their strenuous advocates; and all that is open to medical experience here is—to determine which of these various remedies acts most readily in any given stage of the disease, and is attended with the least injurious after-consequences. This experience can only be acquired by a fair trial of each medicine in a number of cases selected as nearly as possible at the same stage, at the same period of the epidemic, and in persons of the same age. The results obtained from the house-to-house visitation now extensively adopted in many metropolitan parishes, will no doubt, when published, afford much valuable information on this subject. It is desirable that a table of these results, setting forth the symptoms and the medicine employed, with the effects resulting from its administration should be forthwith published by the Board of Health. On the whole, however, there is no great difficulty about the arrest of the early diarrhœa. It is where the discharges have become serous, and the individual is passing into the stage of collapse, that some fixed and efficacious rules for treatment are urgently required.

As to the treatment of the stage of collapse itself, we quite agree with the view expressed by Dr. Laycock, "that patients recover from this stage just as well when not treated with much medicine." This is a conclusion at which, we believe, most practitioners have now arrived. When the vital powers of an individual are thus prostrated, it must be left to the strength of his constitution to carry him through it. The administration of opium in this stage has been found to be decidedly hurtful. Calomel given on Dr. Ayres' plan, in small and frequently-repeated doses, or on the Indian plan in heroic doses, has *apparently* succeeded in the

* MEDICAL GAZETTE, Sept. 7th, p. 397.

hands of some,* but has utterly failed when fairly tried by others.† When absorption appears to be entirely arrested,—when the stomach becomes, as it has been termed, "a devitalized sac,"—it is not easy to perceive how this or any other mineral compound should act beneficially: we do not wish to lay much stress upon the theoretical action of medicines in reference to this disease, but it is our belief that the administration of calomel in the collapsed stage of cholera has not yet been proved to have had any more effect in restoring the patient than the use of olive oil, salt, or other popular remedies.‡

We shall be glad if any safe path can be struck out. If at our Medical Societies one-half of the members contend that no treatment is of any avail, or if one member asserts that he has found perfectly successful a plan which another declares has been attended with no benefit in *his* practice, it is clear that we are wandering in a circle, and that we are not accumulating experience. The remedy for this state of things is obviously that each plan of treatment should be tried as a whole, and not allowed to rest merely upon the statements of him who first suggested it. Thus the greatest benefit would, we believe, accrue to medical practice if each individual who had had fair opportunities of treating cases of cholera, were required to tabulate these cases, with the results of particular modes of treatment: these tables would admit of comparison with those prepared by others, and the profession might then be in a fair position to judge whether any method of treatment really possessed that advantage over others which would justify its general adoption.* Thus to take the calomel treatment, which has recently acquired great popularity, we have first to determine from the results obtained by practitioners in treating numerous cases in different parts of the country, whether this medicine has really exerted any specific influence over the disease in its *advanced stage*. One practitioner asserts that beneficial effects are produced by the medicine; while another, with equal opportunities of judging, contends that, for any effect produced, it might as well be thrust into a dead stomach. A collection of a sufficient number of *facts* (not *opinions*) from various quarters would settle this question. But the advocates for the use of calomel are not even agreed about its mode of administration. It can obviously be no matter of indifference whether this mineral be exhibited in grain doses every ten minutes, or in scruple and half-drachm doses every hour; and yet we find it stated that warmth and reaction are equally brought about under two such diverse modes of administering this medicine! Is it reasonable to assign the equally favourable results to two such different modes of treatment? We look for an answer to this question, not from the avowed partisans of either system, but from the tabulated results of cases in which both methods have had a fair trial.

Experience has shown that bleeding in this advanced stage of the disease is not beneficial, but is rather likely to

* See a paper in this journal by Dr. Archibald Hall, page 516.

† See an interesting and valuable communication on this subject from Dr. Hughes, page 485.

‡ Since this was written, Dr. Hughes's paper, elsewhere inserted (page 485), has reached us. We are glad to find that the view here taken is so strongly confirmed by the observations of a shrewd and experienced physician. Mr. F. G. French, surgeon of the parish of St. James's, informs us that he has employed calomel in many cases without witnessing any good results from its use.

* Dr. Tweedy Todd published some years since a short treatise on the application of the method of induction to medicine. This book will be found serviceable as a guide. It is entitled "The Book of Analysis, &c.," by T. J. Todd, M.D. London: Murray. 1831.

add to the prostration: it has also shown that the free use of opium is decidedly injurious. It now remains to be determined, from a large and disinterested field of experience, whether the calomel plan be really useful; and, if so, whether it be preferable to administer the mineral in large doses at long intervals, or in small doses frequently. The meetings of the Societies which will shortly take place will probably lead to discussions on this subject; but it is to be remembered that no good can result from allowing the statement of Mr. A. to be neutralized by the counter-statement of Mr. B. Let the reader of a paper who wishes to instruct his professional brethren, and to benefit medical science, be required to state what amount of experience he has had,—the stage of the case at which the patient was seen,—the changes observed after the administration of medicine,—and the results, whether favourable or unfavourable. He will thus furnish one brick to the edifice which all are desirous of building. His contribution, although small, will have a much greater influence with the profession than a mere statement of his own opinions irrespective of the facts from which they have been derived. There is one, and we fear it has been hitherto rather a large class of cases, which can contribute nothing to our knowledge of treatment. These are the cases in which, with a sort of despair and perhaps with a desire to hit by accident upon some remedy, practitioners have been induced to try all sorts of treatment. The patient is wrapped in a wet sheet, and is compelled to swallow calomel, opium, cayenne pepper, ice, and effervescing drinks; or, if the treatment be not carried to this absurd extent, medicines of entirely different nature, and having no community of action, are exhibited. The general result is that the patient dies: that he should recover under such circumstances would be a miracle. Our object in adverting to these cases is to state that, whether the patient survive or not, our knowledge of the treatment of cholera is not in the slightest degree benefited by them. If he should recover, it would be impossible to infer, under such conflicting modes of treatment, that any one had proved to be beneficial.

Dr. Barlow, at a recent meeting of the South London Society, stated a plain truth in announcing his belief that it was not probable we should find a "*cure*" for cholera. The search for a specific will be fruitless. As in typhus fever, the great object of the physician will be to carry the patient through the dangerous stage of the malady, and to support his vital powers under the extreme prostration into which they have been thrown by the choleraic poison. A proper method of observation will probably lead to the discovery of some such plan of treatment; and he who is fortunate enough to discover it will deserve well of his profession and his country.

Since these remarks were written, we have seen the following circular recently issued by the Royal College of Physicians, and addressed exclusively to its members. It suggests a method of accumulating useful experience with respect to *treatment;* and we invite those general practitioners who are now extensively engaged in the treatment of cholera to forward to us for publication any facts which they may have observed regarding the efficacy or inefficacy of the treatment indicated in the subjoined letter:—

"Royal College of Physicians,
Pall Mall East, September 6th, 1849.

"Sir,—The Cholera Committee have instructed us to address you again, for the purpose of explaining the object of

the Resolution transmitted to you on the 6th ult., and of offering some suggestions as to the mode in which your co-operation could be most efficiently rendered.

"The opinions of the profession are divided on many points relating to the pathology and treatment of cholera; and it is not to be expected that the doubts and discrepancies existing, will be finally settled by the evidence which any individual member of the profession may adduce. But the Committee have a confident hope that valuable and conclusive results, in regard to at least some of the disputed points, might be obtained, by collecting and comparing the observations of hospital physicians, and the many other members of the College, who have practical experience in the present epidemic.

"Such a method of inquiry appears to be especially applicable, and indeed indispensable, in any endeavour to estimate the relative values of the various modes of treating cholera, respecting which the evidence is at present so conflicting. With the co-operation of the members of the College, the Committee may, it is hoped, in some cases, be able to fix the kind and amount of benefit derivable from particular remedies or plans of treatment; they may establish the superiority of some remedies, and with regard to others, they may show that their use ought to be at once abandoned.

"The following list includes the principal modes of treatment hitherto recommended. It seems desirable that every member of the College, who has the necessary opportunity, should submit one or more of these to a systematic trial, in a series of cases. But the Committee request that you will communicate to them any observations you may have made on the effects of other remedial means, not included in this list:—

"Calomel — in large doses;—in smaller and frequent doses.

"Calomel with opium.

"Opium in large doses.

"Ammonia; Alcoholic Liquids; Essential Oils and Aromatics; Camphor and Musk.

"Acetate of Lead; Sulphate of Copper; the Vegetable Astringents.

"Quinine; Arsenic; Iron.

"The Saline plan, as recommended by Dr. Stevens.

"The Tartarized Antimony Plan, as recommended by Dr. Billing.

"Emetics.

"The free administration of Cold Water and Ice; the Cold Bath and Cold Douche.

"The application of the "Wet Sheet."

"Injection of Saline, or other Fluids, into the Veins.

"Bleeding.

"Electricity.

"With regard to the form in which your observations on the results of treatment may be communicated, the Committee would merely suggest that, with a view to the subsequent comparison of the facts contributed by different observers, a statement, not merely of the number of cases treated with each remedy, and the main results, but also of some particulars of the cases, is desirable. The following points appear the most important, with reference to the object in view:—The age and sex of each patient; the period of the attack at which the treatment was commenced; the severity of the attack, (as indicated by—1. The pulse; 2, the state of the surface, especially of the face and extremities, as to temperature, moisture and colour; 3. The appearance and the amount of the intestinal evacuations; 4. The existence and degree of urgency of the vomiting and cramps; and 5. The state of the urinary secretion);—the apparent immediate effect of the remedy on the symptoms; the duration of the state of collapse, whether fatal or not, after the commencement of the treatment; and, in cases of recovery, the supervention or not of the state called the 'Consecutive Fever.'

"The preceding observations have reference more especially to the treatment of the disease in the stages of impending and complete collapse. But the Committee would gladly learn the results of your experience relative to the means of arresting the diarrhœa, which, in many instances, precedes the stage of collapse, and of restoring the healthy action of the kidneys when collapse has been recovered from.—(See the Queries No. 6 and 10.)

"Lastly, the Committee request that you will communicate to them the results of any inquiries you may have instituted into the morbid anatomy of cholera, or into the chemical and

microscopic analysis of the blood and secretions in the different stages of the disease, and any general observations on the pathology of cholera. The series of Queries appended to this letter embraces some of the more important questions which might be elucidated by the combined experience of the members of the College. But it is not desired by the Committee, that in any communication with which you may favour them, you should limit your remarks to the subjects of those Queries.

(*Signed*)

"William Baly,
"William W. Gull,
"Secretaries to the Cholera Committee.

"*Queries.*

"1. Can you communicate to the Committee any facts observed or investigated by yourself, which appear to you demonstrative of the contagious or infectious nature of cholera, or of its communicability in any way?

"Can you detail any facts illustrative of the influence of deficient ventilation, damp and foul air, respectively, or of other external circumstances, in determining or favouring the production of cholera?

"3. What are the particular states of body or mind, which, according to your experience, have most frequently predisposed individuals to be attacked by the disease?

"4. What are the groups of symptoms which have preceded the full development of the attack of cholera?

"5. Have you observed any distinctive marks, by which diarrhœa, about to pass into developed cholera, may be recognized?

"6. Does it accord with your experience, that cholera, in the stage of serous diarrhœa, may with certainty be checked? What means have you found most effectual in attaining this object?

"7. Have any facts come under your notice, which, independently of theoretical views, would elucidate the question, whether the affection of the intestinal mucous membrane in cholera is the primary disease, or one of its secondary effects?

"8. Can you furnish the Committee with the particulars of cases in which the rapidity of the fatal collapse has borne no relation to the amount of fluid discharged from the blood-vessels, either through the intestinal mucous membrane, or through the skin?

"9. What are the pathological conditions which you have observed in the 'consecutive fever.'?

"10. What means have you found most successful in re-exciting the function of the kidney after the stage of collapse has passed?"

We have to announce to our readers, that in the next number of this journal we hope to publish an account of some interesting applications of the Microscope to the investigation of Cholera. Mr. Brittan, Lecturer on Anatomy and Physiology at the Bristol Medical School, in a series of investigations, undertaken in conjunction with Mr. J. G. Swayne, has observed the constant occurrence of certain peculiar bodies, hitherto undescribed, as a characteristic constituents of cholera evacuations, and by a further series of experiments he has succeeded in demonstrating the important discovery of similar bodies in the atmosphere, &c., of districts infected with cholera.

The results of his observations have been submitted to the judgment of the most eminent microscopical pathologists of the metropolis, as well as of those gentlemen who have acquired great repute for their researches on cholera, and they considering them of novel and most important character, have urged Mr. Brittan to give them immediate publicity.

It is with some satisfaction we announce that the deaths from Cholera in the week ending September 15th underwent a decrease of 344 compared with those of the week preceding. The deaths from this disease in he

metropolitan districts were 1682, thus distributed :—

Under 15 yrs.	Between 15 and 60.	Above 60.
440	964	278

The few days which have elapsed since the return, have been marked by a tolerably uniform number of deaths, showing that the decrease is so far persistent.

The daily returns during the last week have been somewhat irregularly given :—

September 13.

	Deaths from cholera.	
In London and vicinity . .	217	
In England and Wales . .	484	
In Scotland	14	
		715

September 14.

In London and vicinity . .	234	
(Other returns omitted.)		

September 15.

In London and vicinity . .	246	
In England and Wales . .	730	
In Scotland	31	
		1007

September 16.

(Omitted.)

September 17.

In London and vicinity . .	215	
In England and Wales . .	503	
In Scotland	48	
		766

September 18.

In London and vicinity . .	158	
In England and Wales . .	498	
In Scotland	15	
		671

A fairer estimate of the progress of the disease may be made from the weekly than from the daily returns.

Reviews.

The History of the Cholera in Exeter in 1832. By Thomas Shapter, M.D., Physician to the Devon and Exeter Hospital; the St. Thomas's Hospital, near Exeter, for Lunatics; the Lying-in Charity, &c. &c. Pp. 292. London: Churchill. 1849.

The first two hundred pages of Dr. Shapter's volume give a complete historical record of all the facts connected with the official conduct of affairs in Exeter in relation to the cholera of 1832, including the proceedings of the Central Board of Health. We find herein a valuable statement of facts, possessing much local interest, and showing how great is the advantage of experience in guiding our steps in the path of usefulness, particularly in reference to a wise economy. It is an ill wind that blows no good, says the proverb, and our author derives consolation from the reflection that the town of Exeter owes its present abundant supply of water to this visitation. Before that epoch the majority of the inhabitants were dependent on the expensive but niggardly supply afforded by the water-carrier. Dr. Shapter notices a curious fact—namely, that at the approach of any public calamity there are some who vehemently and angrily deny its existence, or the possibility of its occurrence. This feature of the mind appears to have been constantly displayed on all occasions of approaching pestilence; and we are inclined to regard the mode in which the contagion question is often handled, as affording evidence of the same peculiar condition of mind.

Dr. Shapter gives an extremely good description of the disease, which is now but too well known to detain us in dwelling on its details. He has made numerous statistical inquiries, apparently with great care, and one of his tables tends to demonstrate some curious facts connected with the duration of the disease, and the per centage of deaths.

TABLE I.—335 *Deaths from Cholera, showing the duration of the attack, and the proportion per cent.*

	HOURS.				DAYS.					
	under 6	6 and under 12	12 and under 18	18 and under 24	1 and under 2	2 and under 3	3 and under 4	4 and under 5	5 and under 6	6 and upwards.
Actual number of deaths at each period . .	2	17	14	100	100	32	12	9	11	28
Number per cent. at each period	·59	5·07	4·07	29·85	32·80	9·55	3·58	2·68	3·28	8·35

Another table shows, contrary to the general opinion, that the malignity of the disease was the same during the continuance of the epidemic, the mortality having been one in three during the whole period of its existence in Exeter. He infers, therefore, that it is an error to suppose that the disease becomes milder in every locality as it pursues its course. There is also a statistical table which proves that there was no remarkable alteration in the number of deaths from other causes during the epidemic, and that the deaths from cholera were really superadded to the usual numbers.

As a specimen of the mode in which the author treats the subject, we shall quote his view of the nature of the disease:—

"First, as to its nature, the prominent, it may be said, the whole series of the phenomena developed, speak to that condition which is commonly understood by the term "collapse," and, without the phenomena peculiar to this state, death never supervenes, nay, more, nor excepting in this state; the natural course of the disease being either death during collapse, or a rapid recovery consequent on an emergence from it. Truly, some few, after rallying from the collapse, passed into a typhoid state, and died; but these, it may be fairly assumed, succumbed to a cause which was accidental and superadded, and neither proper nor belonging to the disease. The question then arises, what is the cause of the collapse? it is not due to exhausting discharges of blood or of diarrhœal matters; of the former there were none, while, in very many cases, the latter were not copious, and in some few entirely wanting, and these were usually the most rapid and fatal; it appearing, in fact, that death ensued before they had become established: on the other hand, the larger proportion of those cases which terminated favourably were accompanied with the most frequent and copious discharges. So far, then, from the collapse depending on, or being caused by, these discharges, it would rather appear that they are, to a certain extent, the means whereby a "materies morbi" is exuded, and are therefore to be esteemed as beneficial and conducive to reaction. As the collapse, which is the chief character of this disease, is not therefore the effect of exhaustion consequent upon too free and excessive discharges, it becomes necessary to inquire what other cause it may be dependent on. The slow and almost imperceptible circulation, the laborious breathing, the absence of secretion, &c., all indicate that the great organs of organic life are peculiarly affected, and that the due performance of their functions is interfered with, or even entirely suspended; that there is, in fact, the presence of that state which is generally understood by the term internal congestion. It must, then, be ascertained whence this state arises. For the solution of this question we naturally look to the nervous or the circulating systems. As regards the circulating system, there can be no doubt that the heart's action is early implicated, but it is by no means so at first, nor indeed, prominently so, until other large organs of the body generally are affected, and an universal prostration of strength, and cramps, indicate that the rest of the muscular system is involved: nor can all the symptoms accompanying the characteristic collapse be referable to disorder here: collapse from the heart would not cause the peculiar discharges, nor the cramps; hence its origin cannot be referred to primary errors in the circulating system. To the nervous system, then, are we driven to look for the proximate cause of the disease, and a careful examination of the symptoms shows every reason for concluding this to be its seat; the uneasiness in the heart, the oppressed breathing, the pains about the præcordia, the sinkings at the

stomach, the general depression and prostration of strength, the suppressed functions of the secreting organs and chylopoietic viscera, the discharges which are exudations rather than secretions, &c., all indicate disorder here.

"It being granted that the primary origin of the disease is in the nervous system, it remains to inquire what portion of this system is its seat. Many of the earlier symptoms indicate disorder of the brain, as intense headache, tinnitus aurium, &c., yet these are only of occasional occurrence, and they would appear to be rather of secondary than primary origin; nor is their course such as is usually witnessed where the brain is itself affected, for as the disease progresses, they do not proceed from bad to worse; on the contrary, distress here often ceases either naturally or by remedial means, without any alleviation, may be even on an aggravation of the disease itself. The cramps, too, as opposed to convulsions, which are so singular an accompaniment of the attack, are less indicative of brain than of spinal or ganglionic disorder. Though the attendant symptoms may afford some ground for the assumption that the collapse is due to disorder in the spinal cord, yet such a conclusion is negatived by the fact that the collapse of cholera is on the one hand unaccompanied by many of the usual symptoms of disorder in this system, and on the other is invariably characterised by many of those which are neither proper nor common to it. To disorder in the sympathetic system of nerves all may, however, fairly be referred. In fact, the whole series of symptoms, reviewed calmly and comprehensively, lead to the conclusion, that here is the primary seat of the disease, and that hence proceeds all difficulty. The sympathetic nerves are freely and chiefly distributed to those principal organs of organic life, the functions of which we have seen so greatly disturbed, such as the heart, the lungs, the stomach and intestines, the liver, the kidneys, &c., and they are to these the main, if not the only, channel of nervous influence and action; secretion and nutrition being governed and controlled by their means: moreover, branches of this system, together with nerves of motion, accompany the blood-vessels throughout the whole body, and hence we see the connexion, with this disorder, of the cramps during life and the spasmodic twitchings after death. Further confirmation of this view may be found in the occasional occurrence of collapse in injuries of those organs to which this system of nerves is freely distributed, but more especially in the observed consequences of direct injury to the nerves themselves; a blow over the cæliac plexus being capable of producing many of the effects above described, *i. e.* 'of suspending the respiratory and other movements which minister to the organic functions, and hence not only a gradual stagnation of the latter, but a sudden and complete cessation of their whole train of action.' Those lesser symptoms and pains which indicate disorder of the brain and spinal system, and which are occasionally met with in cholera, may easily be accounted for in the morbid impressions conveyed to these organs, through the medium of reflex action, by those nerves which they themselves supply to the sympathetic system.

"From the above, we are, therefore, disposed to consider that the Asiatic or pestilential cholera consists essentially of a congestive collapse consequent on disordered action in the great sympathetic system of nerves. The exact character of this disordered action is difficult to define. We may, however, assume, on the one hand, that it is rather of a general than of a specific nature, from its course not necessarily being certain or defined, but capable of being cut short from the first ingress of nervous feelings, and slight colliquative bowel disorder, to the commencement of, or during the collapse; while, on the other, that it is of a depressing and stunning nature, both from its general characters, and from the class of remedies which, when properly applied on its first indications, invariably prevent the progress of the disorder." (p. 225-8.)

Dr. Shapter observes:—

"From what occurred in this city, I feel justified in asserting THE ASIATIC CHOLERA TO BE AN EPIDEMIC RENDERED GENERAL AND FATAL BY EXTERNAL CIRCUMSTANCES, AND THAT WITHOUT THESE IT IS, COMPARATIVELY SPEAKING, A MANAGEABLE, IF NOT A PREVENTABLE, DISEASE." (p. 231.)

In our next number we shall publish some recent microscopical discoveries, by Mr. Brittan, of Bristol, which, if confirmed, would tend to support the view here advocated by the author.

In the chapter on *Treatment* the author states, that the remedies which appeared to be chiefly advantageous were warm water carminatives, mercury, bloodletting, before collapse, and hot stimulants over the heart, but *not to the surface* generally. p. 233.

In taking leave of this work we have to express our conviction that Dr. Shapter has produced a book which possesses not only local but general interest.

The work is illustrated by numerous well-executed wood-engravings.

As to its medical merits we have only to add that Dr. Shapter has at least

displayed good sense, and has avoided any of those chimerical suggestions for the treatment of cholera which so frequently abound in works on this subject.

Handbuch der allgemeinen und speciellen Gewehelehre des Menschlichen Körpers, für Aertze und Studirende. By Dr. Jos. Gerlach. 8vo. pp. 160. Maintz. 1849.

The first part of this work was noticed by us in our 42nd volume (p.588). The observations then made in reference to the first part are in every respect borne out by the second now before us,and we shall therefore on the present occasion confine ourselves to an enumeration of the subjects therein contained. 1. The microscopic structure of the tooth (concluded from Part I.) 2. The structure of articular cartilages. 3. General and microscopical anatomy of the vascular system, including the blood-vessels, lymphatics and their glands, the spleen, thyroid body, the supra-renal bodies, and the thymus gland. 4. The organs of respiration, including the microscopical anatomy of the several portions of the bronchial membrane and tubes, of the air cells, of the vessels and nerves. 5. The organs of digestion, including the structures of the mouth, throat, stomach, intestines, pancreas, and the liver. 5. The urinary organs, including the kidneys, ureters, and bladder. Each section is headed by a brief reference to the literature of the subjects treated of, and suffices to show that the author has not neglected the best sources of information. When completed the work will form a very useful manual for students of medicine.

EXPERIENCE IN MEDICINE.

Experience is the only source of sound medical learning, but the experience of any single individual, in comparison with the knowledge to be derived from a study of the experience of others, is exceedingly small, and can never render a person competent to practise medicine. The experience of a long life would not equal the amount of useful knowledge that might be imparted by a competent instructor in a single year. The self-taught physicians are scarcely taught at all; and would be still more ignorant if they did not obtain information in casual intercourse with men of superior education and attainments.—*American Journal of the Medical Sciences.*

Hospital and Infirmary Reports.

GUY'S HOSPITAL.

Sept. 8, 1849.

Pleuro-Pneumonia — Hæmoptysis — and Pneumo-Thorax.

(*Reported by* Mr. Frederick Martin.)

Ward No. 9, *Naaman.*—Henry Wilson, æt. 18 : was born in Norfolk, and had resided there all his life, until twelve weeks since, when he came to London, and lived in Bermondsey, following his occupation as a tanner.

He was about five feet six inches in height, of a spare habit, and of a strumous look, with hair inclining to red. He had been delicate from his birth, frequently suffering from cough, pain in the chest, &c., but he had never expectorated blood. He had several brothers and sisters, all of whom were in the enjoyment of good health. Three weeks ago, while at work, he fell into a tan-pit, and afterwards continued his employment all day in his wet garments. A few days after he began to complain o' pain in his head and limbs, which continued gradually to increase. He was attacked with pain in his chest, cough, and dyspnœa, for which ailment he was attended by Dr. Paul up to his admission into Guy's Hospital on the 29th August, 1849, under Dr. Hughes, as the representative of Dr. Addison.

Present symptoms.—Face flushed; expression of countenance heavy and confused; great dyspnœa. He has a short hacking cough, accompanied by scanty expectoration, which is of a dirty white colour, and tenacious; skin hot, particularly so over the thorax, but more especially so at the posterior part of the chest.

The thorax is generally resonant; but at the lower part of the right side posteriorly there is dulness upon percussion, and *marked* small crepitation, rendered shrill by the consolidation of the lung; the pulse is 130 and feeble; urine normal; bowels open. He has considerable wandering at night, but answered questions distinctly; the tongue is dry, and coated with a brown fur. Ordered Cuc. Cruent. ad ℥vj. part. dolent.; Julep. Ammon. Acet. Vin. Ant. Tart. ℥xl.; 4tis horis; Pil. Antim. Opiat. c. Hydr. Chlorid. gr. ii. quaque nocte.

30th.—Had considerable delirium during the first portion of the night, and got out of bed twice, but towards morning he became more quiet, and slept some time. Respiration is less hurried to-day; pulse 120, and very readily compressible; cough still very annoying, short, and hacking, attended with

but little expectoration, which is of a dirty white, although it is just tinged with blood; the urine is loaded with lithates; the skin is pungently hot; dulness and crepitation are still well marked in the lowest part of the right side posteriorly; the tongue is dry, and coated with dark brown fur; bowels open twice. Ordered—Applicetur Emp. Lyttæ. Magn. per horas iv. et postea Catap. Sinapis. et Pergat.

31st.—Passed a better night, but the dulness and crepitation are much more extensive; and at half-past 7 A.M. he expectorated after a fit of coughing about 3ij. of dark red frothy blood, followed by great dyspnœa and profuse clammy perspiration; pulse 140, and very feeble. Mr. Stocker ordered Inf. Rosæ Co. ℥ii. 4tis. horis.

He was again seen at night, when he was bathed in profuse perspiration; the hands were cold, and the pulse scarcely perceptible. He did not expectorate, and was too ill to be examined minutely. Ordered Sp. Æther. Sulph. Co. ℿxxx.; Tr. Opii, ℿv. ex. Julep. Ammoniæ 2ndis horis; but he gradually got weaker, and expired at half-past 3 P.M., not having brought up any more blood, or exhibited any appearance of improvement.

Autopsy twenty-four hours after death.—Upon opening the abdomen the diaphragm upon the right side was observed to bulge considerably downwards, and upon opening that side of the thorax a quantity of air escaped from the pleural cavity. There were numerous beautifully delicate bridles of soft fibrine connecting the costal and pulmonary pleuræ, and the right lung was covered with soft plastic matter, and was greatly compressed towards the mediastinum. A pipe being introduced into the right bronchus, and the lung inflated, air was seen to escape into the right pleura through four or five minute holes, the whole of which occupied the area of about the size of a fourpenny-piece. The air escaped after distending a sac covered by pleura, which, however, was lined with broken-down lung-tissue, and which sac was as large as a lemon, raised, and projecting outwards: it was situated in the middle lobe of the right lung. Upon opening this sac, and injecting water through the pulmonary artery, the fluid escaped through several open vessels into the cavity, and would of course, but for the section of the sac, have also escaped into the pleura.

No fluid, or very little, and even that was perhaps questionable, was observed to escape into the cavity of the sac on the pulmonary vein being injected. The interior of this cavity was soft, loose, and almost diffluent, and traversed by many blood-vessels, and towards its pulmonary surface was surrounded by an ill-defined consolidation, the possible result of pnuemonia, but the probable product of pulmonary apoplexy. It was esteemed gangrenous, though there was no gangrenous odour.

The base of the lung was partially consolidated from pneumonia between the first and second stage, and interspersed with small masses of pulmonary apoplexy. The left lung was healthy, except quite at its base, where there were a few small masses of effused blood from pulmonary apoplexy. The heart was rather dilated, thin, feeble, and exceedingly flabby. The kidneys were slightly congested. The liver very healthy. The spleen soft and flabby. The intestines were apparently healthy, but decomposition had altered their natural character. The stomach was healthy, and contained *no* blood.

Correspondence.

THE CHOLERA AT ALBION TERRACE.

Sir,—If you will allow me to make a few brief remarks on the statements respecting the cholera at Albion Terrace, Wandsworth Road, contained in a letter which you have quoted in one of your leading articles, in the last No., I shall be much obliged, both on account of the great medical importance of the occurrences to which these statements relate, and because they contradict, in some points, the particulars which I collected with great pains and trouble, and which you honoured me by quoting in the review at another page. If the whole of the report by Mr. Grant, the Surveyor, had been published, instead of the very brief and scarcely correct abstract, you would have perceived that his knowledge of the circumstances was of a much more exact and comprehensive nature than that of the "member of a family long resident upon the terrace," who is himself evidently not aware of the careful manner in which the subject has been investigated.

To save space, I will merely give the replies, without copying the letter.

1. The common supply of water to all the houses was contaminated with the contents of the drains and cesspools, and therefore the water could not be unaffected in any of the houses, although it might appear to be so.

2. The inhabitants escaped with their lives out of seven of the seventeen houses, but not without cholera or choleraic diarrhœa as regards several of the seven, and, indeed, I was informed by Mr. Mimpriss, surgeon, who lives opposite, that scarcely a house was unaffected, but one or two that were empty, or nearly so. With respect to the water being used without intermission in some of

the houses, it must be remarked that soon after the second disturbance of the water, to be mentioned immediately, the surviving inhabitants began to leave the terrace, and in a short time the houses were all closed.

3. Avoiding the water whilst it was turbid might not prevent the mischief, especially according to the view I take of it.

4. The communication between the drains and the water pipes continued open, and a week after the first bursting of the drain it burst in a second thunderstorm, overflowing again the lower premises of the houses 8 and 9. This was on August 2d. A gardener employed to clear away the debris on both occasions, referred to his book for the dates when I called on him. He was then ill, and said that he was recovering from an attack of cholera, which came on after the second job at the terrace. Between the first bursting of the drains on July 26th, and that on August 2nd, there had been three cases of cholera, one of which had already terminated fatally, and a case of choleraic diarrhœa. On the morning after the second storm three or four persons were attacked, and the attacks continued numerous for three or four days.

5. The greater part of the attacks did not occur on any one day, and therefore could not be within a few hours of the removal of the rubbish. I have not been able to ascertain the exact day on which the rubbish was removed, as, not thinking that a material point, I did not inquire at an early period. Dr. Milroy, in his report to the General Board of Health, stated that the removal of it took place on the 30th or 31st July, about which time only one or two attacks took place; but a gentleman, on whom I called to-day, living in the house adjoining that from which it was removed, thinks it was on August 2nd, and the morning after this there were three or four persons attacked. There are several houses in the Wandsworth Road which remained free from cholera, although they are nearer to No. 13, from which the offensive rubbish was removed, than several of those in which the disease raged so fearfully,—for instance, than Nos. 1 to 4 inclusive in Albion Terrace,—but the regurgitation of the contents of the drains into the water on August 2nd, at a time when these drains contained cholera evacuations, affected the water of all these seventeen houses, and of these exclusively.

I shall not at present make any remarks on the way in which the water might cause the spread of the cholera in this row of houses, but intend shortly to lay before the readers of the Medical Gazette, with your permission, a variety of details, collected from different parts of the country, which show the connection between tainted water and the extension of cholera, and also the great freedom from cholera, both now and in 1832, enjoyed by certain large towns —as Birmingham, Bath, and Cheltenham, which have a plentiful supply of water that is totally unmixed with the contents of sewers.—I remain, sir,

Your obedient servant,

John Snow.

Frith Street, Soho,
Sept 15, 1849.

MEDICAL STATISTICS OF CHOLERA—LETTER FROM DR. MERRIMAN.

Sir,—I shall be much obliged by your insertion of the following history of my publishing the Statistical Returns of the Cholera in 1832, which completely, I think, liberates me from the charge of plagiarism imputed to me by the editor of the Dublin Quarterly Journal.

As one of the medical graduates of Caius College, Cambridge, I was appointed to deliver the annual "Thruston Speech" on May 11, 1843, and the "Cholera" was proposed as the subject of my discourse. This duty induced me to read all the works upon cholera on which I could lay my hands, but in none did I find any account of its ravages subsequently to its appearance in London in February 1832. It seemed as if, by universal consent, all medical men had avoided writing upon this subject as soon as they had proved, by dire experience, how perfectly the disease was beyond human means of relief. Not satisfied, however, to remain ignorant of the further history of this lamentable visitation of Providence, I asked whether any copy existed of the daily returns to the Board of Health, and after many inquiries I was referred to Sir William Pym, as the person who could give me the information I sought. Sir William very kindly took me to the Privy Council Office, and there placed in my hands the copy of the returns preserved in the office, and which I was subsequently allowed to have copied for my own use. I was informed that the copy formerly preserved in that office had been lent, some time previously, to some person who had asked leave to copy it, but that it had never been returned; and that the office would not have contained any copy of the returns at all, had not, fortunately, a second copy been previously made for King William's library at Buckingham Palace. The King's copy was, upon the loss of the office copy, recopied for the use of the government, and another copy was made at my request and expense, for publication in such way as I pleased.

Having now obtained this "rara avis," I drew up a history of the progress of cholera over the whole globe, as complete as I could make it, and presented it to the Royal Medical and Chirurgical Society, by whom

it was considered worthy of a place in their Transactions,—an honour they never woul have accorded had they been aware that the tables had ever oeen previously published.

Few persons have such an extensive knowledge of the various writings on different diseases as Dr. Copland possesses, yet in the bibliography attached to the article "Pestilence, Choleric," in Part 10 of his Dictionary, published in 1845, I find no reference to Dr. Graves' publication in the Dublin Quarterly Journal, so that I am forced to suppose that the learned doctor was not aware of its existence.

I am the more surprised that I have never heard of Dr. Graves' publication, because, in 1844 and in 1845, I wrote to a medical friend in Dublin, requesting him to procure me the Statistics of the Cholera in Ireland, but as I never received any I concluded that he was unable to procure them.—I am, sir,

Your obedient servant,
S. Wm. J. Merriman.

34, Brook Street, Grosvenor Square,
15th September, 1849.

GOOD EFFECTS OF THE LIQUOR CHLORINII IN THE TREATMNNT OF CHOLERA.

Sir,—Will you allow me, through the medium of you columns, to draw the attention of my professional friends to a remedy which I have found very useful in the treatment of the prevailing epidemic,—I mean the Liq. Chlorinii of the Edinburgh Pharmacopeia. Within the last four days I have used it in nearly one hundred cases—varying from the mild form of diarrhœa to severe forms of cholera. It has invariably stopped all pain, purging, and vomiting; I have only lost two cases, both of which were far advanced in the stage of collapse when I was first called in. The dose I give is from ʒj. to ʒiss. diluted with water, every hour until the symptoms are relieved.

As I am not aware that this remedy has ever been used before in this disease, I trust you will give insertion to this note.

I am, sir,
Yours, &c.,
C. W. Mann, M.R.C.S.E., &c.
Medical Officer to the Northern District of Clerkenwell.

September 15th, 1849.

POOR-LAW GUARDIANS AND CHOLERA.

Sir,—To have made the Poor-Law Guardians the medium of carrying out the Public Health Act, is surely a very serious error. Is not the mortality of the present epidemic in some degree owing to this great mistake?

See how it acts. The pestilence is raging around us. We are almost everywhere in the midst of the dead and the dying; and the groans of the poor and wretched are met by disputes of "the Guardians of the Poor" as to who shall minister to their sufferings while alive, and who shall bury them when dead. The City of London Union to wit! In some places additional medical aid, or additional pay for the increased labour of the parochial surgeons, has been denied; and one parish surgeon resigns, because he is nearly worked to death, and receives only 1½d. for each cholera case! Is it not also too well known that the Guardians under the Poor Law Unions, instead of adequately rewarding their medical officers for their arduous and responsible duties, give the lowest possible remuneration to the lowest possible medical men they can appoint?*

Thus, then, is medical aid provided by the Poor Law Guardians against the present destructive and wide-spreading malady—against a disease which we can only hope to combat by the use, under Providence, of all the appliances that art and science, and the best medical skill and experience, have placed, or may place, within our reach.

But the Act is an Act for the "Prevention" of Epidemic and Contagious Diseases. How is this effected? Do the Poor-Law Guardians send round proper paid agents to discover and present all sources of impure and poisonous air, and to enforce their removal? No; they wait till two respectable householders make themselves obnoxious to their neighbours by informing against them, or they endeavour to make nuisance inspectors of their underpaid and over-worked medical officers, by requiring them to perform this "labour of love."

House to house visitation, and houses of refuge, are amongst the most effective means of preventing cholera. Do the Guardians adopt the first of these measures when a town is *threatened* with the epidemic—when it is hovering around, and nearly all the poor are, more or less, affected with choleraic diarrhœa? *Au contraire*, these Guardians of the public purse—Guardians of the rich and the rate-payers, rather than of the poor—throw every possible obstacle in the way of these plans, even when the disease has broken out.

Such, sir, is the result of my observation of the working of this Law by the Union Guardians. But my only object is truth, and the prevention or alleviation of a great public calamity; and I shall be glad to have these observations confirmed or refuted by

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* That these appointments are taken by some most respectable medical men from benevolence, or to keep out a rival, or by young men to obtain employment, does not impugn the fact that such is the course, and the effect of the course, adopted by the Guardians.

the reports of my professional brethren from different parts of the country. Truth and facts on this subject are just now especially important; for we ought to derive, from the experience of the present, lessons for provision against future, and almost certain visitations, of this great scourge.

HYGIEIA.

Sept. 12, 1849.

Medical Intelligence.

HISTORY OF THE ORIGIN, PROGRESS, AND MORTALITY OF THE CHOLERA MORBUS.

TOWARDS the end of the last century (in 1781) a body of 5,000 troops, stationed at Ganjam, a coast-town 535 miles north-east of Madras, were suddenly attacked with a new disease, of such incredible malignity that men in perfect health drooped down dead by dozens. Exclusively of those then smitten with instantaneous death, more than 500 men sickened in one day, and for the most part sank beyond recovery within an hour. Next day the distemper still raged with unabated fury, and on the third day more than half the army had either perished or were in the hospital. Next year (in 1782) the troops under Sir John Burgoyne at Madras suffered from a similar, though less severe disorder, which within a month had attacked 1,000 men, of whom some died in the first hour, others expired after a day or two in horrible convulsions, and very few recovered.

The year afterwards (1783) the same strange malady broke out among the pilgrims at Hurdwar, and swept off no less than 20,000 of the worshippers at that celebrated shrine. At about the same time many of the inhabitants of India, civil as well as military, were seized with this cruel distemper, which the Moslems called "*mordechim*," or bowel-death. The term "*mordechim*" was corrupted, by persons more conversant with French than Persian, into *mort de chien*. The symptoms of this *mort de chien*, as described by Mr. Curtis, who witnessed many cases of it both in Madras and Ceylon at that period, are identical with those of our spasmodic cholera.

The origin of the cholera cannot be distinctly traced to any earlier epoch. The Brahminical records, indeed, vaguely notice a somewhat similar disease as having prevailed among the Hindoos in remote antiquity; and Bontius, a practitioner in Batavia, about two centuries ago, describes under the name of cholera a bilious distemper then prevalent in the Dutch settlement at Java. Passages, too, in the works of Hippocrates, Aretæus, Josephus, and Zacutus de Lisbonne, have been advanced in proof of the antiquity of cholera; and some have supposed that it was this pestilence which, in the time of King Hezekiah, overtook the Assyrian army, and smote in one night a hundred and four score thousand men. But whether these ancient plagues were really spasmodic cholera cannot now be certainly determined. No definite traces of its existence can be found before the outbreak of the *mort de chien;* and this distemper, we know, never spread beyond the confines of India.

In 1817, however, the *mort de chien* burst forth in Bengal with extraordinary malignity, and was found to have changed its character. No longer localized in the tropics, it was observed to spread rapidly westward; and men began to forebode, from its rate and course, that it would soon invade the continent of Europe. The circumstances of this disastrous outbreak—the origin of the mortality under which we are now suffering—deserve attentive consideration. The overflow of the river Ganges had swelled to a greater height than usual the annual inundation of the marshy plains adjacent. Cities and villages appeared like islands in the midst of a temporary ocean, covered with innumerable boats, and traversed even by vessels of 100 tons burden. The whole country round Jessore was one sheet of water, and those jungly marshes, known as the Sunderbunds, which are intersected by the numberless streams forming the delta of the Ganges, lay steaming in a moist, calm air, neither quite overflowed, nor yet quite dry, a hot-bed of putrescent miasma.

It was under such circumstances, aggravated by the heats of August, that the first seizure occurred at Jessore. The mortality spread rapidly among the population, infecting chiefly the miserable Pariahs, who earn, by excessive toil under a vertical sun, only about 2½d. a day, and who live in squalid hovels, crowded and damp, in the filthiest quarters of the town. In a few weeks 10,000 souls—a sixth of the population—had perished. The civil courts were closed, business was suspended, and the wealthier inhabitants fled in crowds to the country. Within a month the disease broke out in Calcutta, about 100 miles to the south-west, brought, as some say, by fugitives from Jessore; originating spontaneously, as others suppose, from the same cause in both places. Here also it committed fearful ravages, destroying daily above 200 persons. Its migratory character soon became terribly apparent; within a few weeks it had devastated every town and village within an area of several thousand square miles, from Sylhet, in the east, to Cuttack, in the west, and from the mouths of the Ganges upward to its confluence with the Jumna.

From this central district the pestilence travelled by three principal streams, one flowing south-west, along the Coromandel coast, to Madras; another south-east, along the opposite coast of the Bay of Bengal to Arracan and the Malay peninsula; a third, westward, along the valley of the Ganges to Bundelcund, where the grand army, consisting of 10,000 fighting men and 80,000 camp-followers, was assembled under the Marquis of Haatings.

The south-western stream took 12 months to reach Madras; in six months more it had crossed to the north coast of Ceylon, which island it rapidly overran; and thence it was conveyed by the Topaz frigate to the Mauritius, where it appeared in November 1819.

The south-eastern stream travelled more slowly. It took 12 months to reach Arracan, and 12 more to descend along the coast to the Malay peninsula. At the British settlement of Penang (an island on that coast) it destroyed three-fourths of the population. Thence it made its way through Sumatra, Java, and the Spice Islands to Timor, its extreme south eastern limit, spreading at the same time northward to the Philippine Islands, where it decimated the barbarian tribes, who rose against the Chinese and Europeans, accused them of magic, and butchered many thousands. At Pontianah, a Dutch settlement on the western coast of Borneo, it carried off the whole garrison except one man. Still running northward, next year (in 1820) it reached Canton, ravaged Pekin in 1821, and, after devastating China for several years, passed the Great Wall in 1827, and spread through many parts of Mongolia. It is not true, therefore, though the assertion is common, and has been made the basis of a theory of choleraic propagation, that this disease only travels westward.

The western stream, travelling about 400 miles in three months, against the periodical monsoon, and infecting some, but sparing others of the towns and villages in its track, reached, early in November, the British army encamped on low ground on the banks of the Scinde. It turned the camp into a hospital. Nine thousand men, about a tenth of whom were English or Sepoy soldiers, the rest camp-followers, perished in a week. The sentinel was often seized at his post—his successor would be smitten too—a third man, and a fourth, would sometimes succumb before the two hours' duty was performed. Many fell down in convulsions while carrying their comrades to the hospitals. The neighbouring ravines were filled with the dead, for whose burial time and hands were wanting. For miles around, the fields and highways were strewn with the bodies of those who had vainly sought safety in flight. And when at length the Commander-in-Chief determined to move in search of a healthier position, the line of march presented the appearance of a battle-field. Nor was it till the army reached a high position at Erich, 50 miles off, on the steep dry banks of the Betwah, that the disease amongst them began to subside.

Within twelve months, that is, by August 1818, the western stream of the epidemic, pursuing its course along the Ganges and its tributary the Jumna, had reached Delhi, spreading also to Saharampore and Kotah, towns situated just within the western limit of the basin drained by those rivers. Having ravaged these and many intervening towns, it stopped abruptly for nearly a year; arrested by the mountain range which bounds the basin in question on the west. By the time it reached Delhi, however, it had also spread northward to the high table-land of Nepaul, on the southern slope of the Himalaya mountains—which checked for years its further progress towards Central Asia. At the same time it had made its way southward to Bombay, where also it appeared in August 1818; and whence, six months latter, it descended te Trevandrum, and to the coasts of Cape Comorin, the most southern point of India.

Briefly, within thirteen months from its first outbreak, the epidemic had overrun the whole Indian peninsula, and had proceeded, in its course towards Europe, to the hills forming the western boundary of the basin of the rivers Ganges and Jumna. These hills, though their eastern slope was devastated by the epidemic for nearly twelve months, checked its career, to the great joy of the inhabitants of Chittore and the other territories lying westward of the range, who thought themselves secure from the terrible enemy which had taken possession of the opposite plains. Their fancied immunity was soon, however, at an end. Suddenly, in July 1819, the people of Chittore learned, to their consternation, that the cholera was at Oudeypore, the metropolis of the principality; and that, entering the Royal palace, it had attacked the prince himself, and had destroyed his prime minister in a few hours. In this city, as also at Ajmeer, and many towns adjacent, it committed dreadful havoc. Another pause—this time of two years—ensued. The mountain chain and burning deserts which lie westward of Hindostan seem for a while to have barred its passage.

In July 1821, it broke out with tremendous violence at Muscat, Bushire, and Bussorah, the three principal ports of the Persian Gulf. In Muscat alone, 10,000 persons perished. At Bushire, the houses were abandoned, the bazars closed, and the streets strewn with unburied corpses. At Bussorah, 18,000 persons, nearly a third of

the population, died in eleven days. While raging thus virulently round the shores of the Persian Gulf, the disease also spread rapidly from Bussorah, at the mouth of the Tigris, up the great basin of that river and of its confluent, the Euphrates. In one month it had reached Bagdad, then invested by the Persians, and destroyed thousands, as well of the besiegers as of the besieged.

During the winter of this year (1821) its violence in some degree subsided. Next summer, however (1822), it resumed its march towards Europe, extending along the Tigris to Aleppo, and along the Euphrates to Erzeroum, in Armenia. It was raging in this town when the Persian army (who had the infection among them) advanced, between 30,000 and 40,000 strong, to fight an equal body of Turks, encamped on high table-land in the vicinity. The Turks were not only beaten, but they became infected during the battle; and, indeed, the victors as well as the vanquished fell by thousands beneath the strokes of an invisible enemy, more terrible than any human foes. Between 3,000 and 4,000 of the Persians perished; whole troops deserted, panic smitten; the rear of their line of march was strewn with dead bodies; and by the time they reached Chooe, scarcely any army remained for the Prince of Persia, their leader, to dismiss. As for the fugitive Turks, they fled, doubly routed, to Bakou, on the western shore of the Caspian, spreading the infection along the road they traversed.

During the next year (1823) the disease made little further progress. It spread westward from Aleppo to Antioch, and several other ports on the western coast of the Mediterranean, and from Bakou it extended northward, along the western shore of the Caspian, to Astrachan, a Russian port at the mouth of the Volga. Here, however, it only occasioned a mortality of 144 persons, and then died out—it was fondly hoped for ever.

Six years elapsed.

During this period the pestilence paused, strangely, on the western skirts of Europe. No quarantine was enforced; no obstacle was opposed to the streams of human intercourse flowing westward from the infected places. The plague seemed to be exhausted, and the alarm which its proximity had excited soon ceased and was forgotten. In the summer of 1829, it again gave signs of its existence in unabated malignity on the western boundary of Europe. It broke out at Orenburg, a town on the Tartar frontier, 400 miles up the river Oural, which extends northward from the Caspian Sea, whose shores the disease had ravaged in 1823. In Orenburg, and in the surrounding province, a tenth of the inhabitants were seized; and about a fourth of the smitten perished. This second warning renewed for a moment the forgotten fears of the Europeans. But no measures were taken to resist the impending pestilence. With the subsidence of the disease during the winter the apathy of Europe returned. No steps were taken to abate the filth and misery of their overcrowded towns. Their graveyards, their slaughter-houses, their reeking cesspools, still loaded with putrid steam the stagnant air; and their squalid populations, with blood already half corrupt and fevered, were suffered to lie strewn in the path o the epidemic, like prey in the path of a lion.

Next year, in 1830, during the heats of July, the smouldering pestilence broke out again in Persia; again crept along the western shore of the Caspian, infecting Saliany, at the mouth of the Kur; Astrachan, at the mouth of the Volga; and many intermediate towns. But this time it spread westward along the valley of the Kur to Tiflis, which it reached and ravaged within a month. It also ran westward into Caucasia along the rivers Terek and Kuma. And from Astrachan it ran, in twenty-one days, 400 miles up the Volga, to Saratoff; where it destroyed within a month 2,367 persons. From Saratoff it continued rapidly to ascend the Volga towards Moscow; where, next month (September 14th, 1830), two or three cases were reported.

The Emperor of Russia now became alarmed. He threw a *cordon sanitaire* round Moscow, established a strict quarantine at its gates, and enjoined a careful isolation of the sick. In spite of these measures the disease spread rapidly, attacking chiefly the squalid inhabitants of a low-lying triangular island, formed by two branches of the river, connected by a canal. Here, in six weeks, above 3,000 persons perished. In the height of the panic, while the town was strictly isolated, and the disease universally believed to be contagious, the Emperor Nicholas came himself to Moscow, to raise the spirits of his subjects, by showing himself ready to partake of their danger. It is impossible not to admire the personal gallantry of such conduct. It does not, however, appear that the power of the Autocrat was exerted to cleanse the Augean filth of which he boldly braved the perilous effects. The disease continued to ascend to the north-west, spreading from the Caspian to the Baltic at such a rate as would have infected all Europe in three months. Considerable apprehensions prevailed; but still, in our great cities, the dead were buried as usual amidst the living; still men were content to live surrounded by the offal of slaughter-houses, and then, as now, they continued to breathe the exhalations of black ditches, of open gully-holes, and of

noisome tanks, brimming with accumulated ordure.

The results of their supineness soon appeared.

While the cholera was thus ascending the Volga to Moscow, and thence to Petersburgh and the shores of the Baltic, it also spread down the river Don to the borders of the Black Sea, reaching Odessa and the mouth of the Danube soon after its outbreak in Moscow. The pestilence now made its way across the continent by several parallel streams. Along the valley of the Danube it spread to Vienna, which it reached in August, 1831. Along the shores of the Baltic it crept from Petersburgh, by way of Riga and Stettin, to Berlin, where also it appeared in 1831. An intermediate stream reached Warsaw and Cracow in the same year, and ravaged many towns of Poland. The Polish army are said to have taken the disease during a battle with the Russians, as the Turks had previously become infected during a conflict with the Persians.

From these principal streams the infection was diffused along the roads and rivers throughout Austria, Hungary, and Germany, till, among other places, it reached Hamburgh, in the autumn of 1831.

Reverting for a moment to the East, we find Egypt attacked in the same year (1831), the disease having been brought to Cairo by the pilgrims returning from Mecca, which had itself been infected by worshippers arriving from the tainted ports of Persia and India. At Mecca 20,000 of the pilgrims perished in four days; and at Cairo the mortality was so terrible that even the physicians perished, and the hospitals were filled with shrieking wretches dying without aid. Constantinople had already, two months earlier, been entered by a pestilential stream branching southward from that which we have already traced along the shores of the Black Sea and up the valley of the Danube. In its westward progress through Europe to the point at which we left it (Hamburgh), the pest disseminated its virus to these and many other towns which our limits oblige us to pass unnoticed.

It was early in October, 1831, that Hamburgh was attacked. On the 26th of the same month the disease broke out at Sunderland, on our eastern coast, brought thither, it is supposed, by an infected vessel from Hamburgh.

At that time, strangely enough, France was still uninfected, as also were the Spanish and Italian Peninsulas. Almost simultaneously with its appearance at Sunderland the disease broke out in London among the shipping in the Thames, though not one of the intervening towns had as yet taken the infection. Four months afterwards (in February, 1832), Edinburgh was attacked, and a few weeks later the disease appeared in Dublin. It spread gradually throughout Great Britain and Ireland, and destroyed about 30,000 persons. Calais and Paris were infected nearly simultaneously in March, 1832; not, therefore, as might have been expected, by propagation of the disease from Germany along the Rhine, but obviously by a reverted stream from England. From these centres the epidemic spread through France, sometimes from town to town, sometimes apparently by leaps to distant and isolated points. The mortality in this country was much greater than in Britain, Paris alone losing upwards of 18.000 souls. Three months later (June, 1832), the pestilence appeared at Quebec. In the same month it broke out at New York, and spreading rapidly, ravaged nearly the whole American continent.

While the western stream of virus was thus rapidly completing the circuit of the globe, a reflex current travelling more slowly from England in a south-easterly direction, attacked Lisbon and Madrid in 1833, spread during 1834 throughout the Peninsula, infecting the British garrison at Gibraltar; penetrated in 1835 to Piedmont, Genoa, and Florence (which the Alps, it would seem, had previously protected), reached Naples in 1836, and Rome in 1837.

At Naples a rigorous quarantine proved utterly ineffectual. The city was surrounded with military *cordons;* the smitten were pitilessly torn from their beds and isolated in a distant hospital; the physicians traversed the streets, covered from head to foot in black sacks of waxed canvas with glasses inserted to see through. These terrific measures spread such a panic among the inhabitants that 30,000 fled in a few days; the populace declaring the food to be poisoned, began to rise; the King found it necessary, for their pacification, to walk through the most infected streets, to partake of the suspected bread, and to suspend the obnoxious quarantine regulations.

Marseilles and Toulon, which had escaped, strangely enough, when France was first overrun, were attacked by the retrograde current in 1835; and from those ports the disorder was carried to Algiers, which it ravaged in 1837, and whence it spread along the northern coast of Africa. In the same year (1837) Malta was attacked most severely, losing in twelve weeks 3,784 persons out of a population of 103,344. Here the disease seems to have become evanescent.

From this rapid outline it will be seen that the cholera of 1817, in its course to England, had three periods of active progress, separated by two pauses. Two years

it took to overrun India; two to pass through Persia to the Caspian Sea; and two to spread through Central Europe to Great Britain. During two years it paused in its career on the western boundary of Hindostan; during six it smouldered on the eastern verge of Europe The two southern peninsulas of Europe, isolated in a great measure by the Alps and the Pyrenees, enjoyed a further special respite; nor was it till twenty years after its outbreak in Bengal that this terrible plague had fetched the compass of the habitable globe. In its westward progress the disease was observed to have added to its former terrors a new and most destructive feature—the consecutive fever—of which thousands perished after surviving the stage of collapse.

After lingering in each country attacked for two or three years after the date of its arrival, the cholera subsided in Europe. In India, however, it became endemic, raging yearly for a period of several months, and yearly exciting the liveliest apprehensions lest it should burst its bounds, and again overshadow the whole earth. Nothing, however, was done to prevent a second invasion, or to meet it, if it should occur. The track of cholera had been abundantly proved to be that of typhus, both diseases attacking persons debilitated by overwork, insufficient diet, damp, crowded lodging, and close, mephitic air. Everywhere the squalid abodes of the poor, and their miserable inmates, had been the chief seats and subjects of the disease. Yet the filth of London was left to ferment in its 300,000 cesspools; the foul tidal ditches of Bermondsey, Shoreditch, and Lambeth, still loaded with their stench the stagnant air; and every year 40,000 more corpses were added to the sodden mass of putrescence on which our metropolis stands. And what is true of London is true also of Moscow and Petersburgh, of Berlin, Vienna, and Paris; of Lisbon, Madrid, and Rome. Everywhere apathy and indolence followed on the subsidence of panic.

Of that apathy, and that indolence, Europe is at this moment suffering the consequences. The pestilence now raging has pursued, with but little deviation, the track of its predecessor, travelling, however, more rapidly, and committing fiercer ravages than before. Many cities—as, for instance, Petersburgh and Berlin—were attacked at the same season, and even in the same month, in 1847, as in 1830. The same streets—nay, the very same houses—that suffered most severely before, are suffering most severely now; and towns which, like Birmingham, escaped in 1830, are again enjoying a similar immunity.—*Times.*

(To be continued.)

DR. ROE, THE PLYMOUTH BOARD OF HEALTH, AND THE CHOLERA HOSPITAL IN WESTWELL STREET.

On the 10th of August, the Plymouth Board of Health passed a resolution to convert a small house, lately occupied by Mr. Drew, the builder, in Westwell Street, into a cholera hospital. After an earnest remonstrance against the measure, the following memorial, signed by two hundred householders and inhabitants of Westwell Street and its neighbourhood, was presented to the Board, on August 13th, by Dr. Roe:—

"We, the undersigned, inhabitants of Westwell Street and its neighbourhood, view with feelings of the greatest alarm the intention of the Board of Health to convert a building in Westwell Street into a cholera hospital. We most vehemently protest against it, and beg respectfully to urge on the Board of Health the absolute necessity—if cholera patients are removed from their houses—of removing them to places where they may not spread the infection: this course has already been adopted in Stonehouse Lane, and is the course now being pursued in the adjoining towns of Stonehouse and Devonport.

"The medical officer of the district No. 7,* in speaking of Higher, Middle, and Lower Lanes, stated that if patients were allowed to remain *there*, there would be a *concentration of cholera poison* sufficient to poison the whole town. If this applies to scattered cases throughout three streets, what will be the effect of collecting all these cases into one building, with the addition of others from the different parts of the town?

"We leave this to the consideration of the Board, earnestly entreating that a step so likely to be fraught with such evil consequences may not be carried into effect."

Dated August 11th, 1849.

(Here follow 200 signatures.)

The memorial, although received with ridicule, had the effect of stopping the sending of cholera patients to the house, and one medical man even said before a very full Board, that "they were too old birds to be caught incurring the responsibility of bringing the disease so close to the workhouse."

On August 30th, however, it was determined that the house should be forthwith used, and patients were immediately sent in.

At Dr. Roe's request, a special meeting of the Board was called, which confirmed the previous minute. This led to the following letter:—

* Mr. Derry. The district having been lately subdivided, it is necessary to state who is here referred to.

"*To W. T. Harris, Esq., Chairman of the Board of Health.*

"Princess Square, Plymouth,
September, 1, 1849.

"Sir,—The resolution passed by the Board of Health last night, compels me to resign my connection with that body. I should consider myself criminal did I remain one moment longer associated with a Board which could be forced by the solicitations of one medical man to do an act which the town has already pronounced as most prejudicial to its commercial interests—as most murderous to the lives of the inhabitants—as most fatal to their security and peace.

"The conversion of a *small dwelling-house in a crowded neighbourhood and bustling thoroughfare* into a cholera hospital—the establishment of such an institution within a few yards of an overcrowded poor-house, containing not fewer than 350 paupers, who are de facto *prisoners*, inasmuch as they cannot fly from the death-bearing pestilence you are concentrating around them, is a proceeding so monstrous as almost to defy credibility.

"But when we come to consider that this building, so ill calculated for the purpose to which it is misappropriated, is situated in the very centre of the town, and that already two hundred of the most influential and intelligent householders of Plymouth have memorialised against such a use being made of the corporate property—when we consider that you have in a field, within a very short distance of any and every part of the town, a hospital, with a staff of medical men and nurses, and kept up at a cost of not far short of £60 per week—which hospital is not *half filled*—we sum up a case of as wanton, uncalled-for, and unneccessary an aggression on the lives and peace and happiness of the inhabitants of this town as its annals can parallel.

"And why has this second cholera hospital been established? Because a surgeon-apothecary, who merely derives his influence from being a *member* of the Board, has insisted upon it, regardless of the consequences to the commerce of this town—to the poor—to the excited and alarmed inhabitants of Westwell Street and its neighbourhood. And what purpose does he profess to be able to accomplish by this pernicious measure?

"He saves himself trouble, as he can see fifty patients under one roof as quickly as he can ten scattered in various houses! But surely no man would risk his professional character and prospects to save himself a little exertion, when he could avoid *all* trouble by giving up his small district of two streets.

"He can save more of the diseased! What! at the expense of the lives of the healthy? Would he or any other man dare to hazard the lives of those who by their cleanliness, regularity, and good and temperate habits have raised up a wall around them strong enough, under God, to resist any ordinary attack, but powerless against a *concentration* of cholera poison such as he intends to use against them. Would he sacrifice those poor helpless paupers who, from their unfortunate position, dare not raise their voice, "yet feel the wrong?" Will any man in his senses dare to *bring* most fearful disease, and almost sudden death, from an obscure by-place, like Basket Street, into one of the busiest arteries of the town, that the poison may be wafted east and west, north and south, on the winds of heaven, on the garments of the passer by, as he shudderingly hurries through the plague marked place?

"The question may well be repeated. Will any man in his senses do this? I think not—there must be a chord unstrung in your surgeon adviser's mind which has now been struck and jars mad music. I would hope so, for no other excuse would disarm the just indignation of all right-thinking persons.

"Cholera, sir, is not a trifling malady: it is not a thing to play with; it is a stern visitation of Almighty God, and bears with it all the impress of the indignation of a justly-offended Deity: it seizes on its victim often in the midst of revelry and riot—it sends him to the vast abyss of eternity, to the presence of his Maker, almost before he has recovered from the first surprise of his attack, and he dies with his temporal and eternal affairs—oh! how different in their importance—in chaotic confusion. Should we not, therefore, strive by every means in our power to put this fearful malady as far as possible from us? 'No,' Mr. Derry practically says; 'We will have it in our vitals—it shall prey upon us, and instead of visiting us once now and then, we will *keep it in our town;* we will take it to our very bosom; it shall abide with us; we will not send our patients to the hospital in Five Fields, nor cure them at their own homes; but we will take them to an *ill-ventilated small private dwelling-house in a crowded neighbourhood;* we will fill that small house with all the cholera patients we can find in one-half of the town, and then for our own lives, and those of our nurses and patients, we will open wide the windows, and have ventilation: fresh air in the place of the deadly poison passing from the bodies of the dying, and the destroying angel shall go forth, and strike down its victims on every side; the air we drive out shall, like the evil spirits of old, enter into other

bodies, and hurry them into the sea of destruction.'

"And the Board says, Yes! reluctantly, it is true; but still yes! It says yes, although our respected vicar strongly protested against it; it says yes, although the town says No!

"And every *now* happy family, whose hearth is made desolate by the course pursued—every manly brow and sinewy frame borne down by the homicidal course you have tolerated and allowed—every crime, the result of parents being taken from their children, wives from their husbands, will be as surely registered against the originators of the mischief as that God is in Heaven.

"And now, sir, in taking my farewell of the Board of Health, I will but very briefly refer to myself. I have worked hard for the poor in their hour of direst need. In the midst of a large private practice I have allowed no thought of mental or bodily fatigue to intrude in preventing my doing my duty. I knew that the poor man's bread was bound up in his health, and that without health he must starve altogether, or become a half-starved degraded pauper; in the last case *necessarily* half-starved, for no community could bear the weight of rates sufficiently heavy to meet the *full* requirements of a large out-door population.

"During the last six weeks I have reported 123 very severe cases in my district, *fully half* of which have been from the first, or have rapidly merged into, malignant cholera, and out of that number my deaths have been but *six*. I say this in no idle vein of boasting, but simply to show that I have been no unjust steward of the trust confided to me.

"During the time I have been associated with the Board, I have had the pleasure of forming a friendship with several of its members, for whom I have the highest respect and regard.

"To the members of the Board generally, I offer my thanks for their politeness and attention.

"I am, sir, with all due consideration,
"Very faithfully yours,
"EDWARD T. ROE, M.D."

The following letter, together with copies of the foregoing memorial and letter, were at the same time sent to the General Board of Health, London:—

"Princess Square, Plymouth,
Sept. 1, 1849.

"MY LORDS AND GENTLEMEN,—I beg most respectfully to lay before you the accompanying papers, in the earnest hope and prayer that you will interpose your high authority to stop a course I submit to be as unwise to the patients, as it is unjust to the inhabitants of Plymouth.

"A small dwelling-house, in a narrow street, has been converted into a cholera hospital: this small building, the windows of which open in front upon the street, in the back upon the workhouse-yard, is close to the poor-house, containing at this time 400 paupers (being, I understand, fifty above the average), and also close to a pauper lunatic asylum, containing nearly forty persons. It is surrounded by a dense population: it is in a busy thoroughfare, and the streets around are the best, and those in which the chief amount of the business of the town is done.

"Two hundred of the householders and inhabitants in the neighbourhood of this cholera hospital have memorialised the Board of Health without effect, and they are anxious to apply to your superior tribunal; but the agitation of a town on the subject of cholera is to be deprecated as tending to alarm the people, and hurry many into the disease.

"I may be permitted to remind you, my Lords and Gentlemen, that we have, at a short distance from the town, a cholera hospital, capable of holding from fifty to sixty persons. This hospital has *never* been full, and has now only sixteen persons in it.

"What we solicit your honourable Board to do is, to order that the building in Westwell Street be closed, or no new patients admitted until the hospital in Five Fields is filled.—I have the honour to be,

"My Lords and Gentlemen,
"Your most obedient servant,
"EDWARD T. ROE, M.D."

RECENT PROCEEDINGS OF THE BOARD OF HEALTH.

THE General Board of Health has issued orders to the Holborn Union, and the parishes of St. James, Westminster, and St. Pancras, Middlesex, enjoining a house-to-house system of visitation by four duly qualified medical men, who shall devote their whole time to that purpose in the affected localities of each parish, and carry medicines with them to administer on the spot to all persons who may be found labouring under diarrhœa or other premonitory symptoms of cholera. The Board has also by order closed the new Bunhill Fields burial grounds, St. Luke's, Middlesex, and appointed two inspectors of nuisances for the space of three months in the parish of St. Matthew, Bethnal Green.

These proceeding are creditable to the Board; and we regret to find that in their efforts to promote public health and abate nuisances, they have met with such violent opposition on the part of Boards of Guardians, as to be compelled to resort to law to enforce their orders. The vestry of St. Pancras have refused to obey the order re-

specting house-to-house visitation, on the ground that there have been only seven fatal cases of cholera in this large parish. It may be too late to resort to it, when the deaths have become more numerous.

THE CHOLERA IN SWITZERLAND.

Letters from Basle of the 7th inst. state that the cholera has broken out in that town, and that the old system of the quarantine is revived to prevent the disease from spreading. In the canton of Ticino the cholera appeared on the 2d inst. In two days there were 10 cases and four deaths.

THE CHOLERA IN IRELAND.

Dublin—From September 11th to September 17th.

	Remaining.	Admitted.	Discharged.	Died.	Remaining.
Green-street Hospital .	68	54	42	30	50
Brunswick-st. Hosp.	3	8	1	6	4
Kilmainham Hospital .	36	54	30	22	38

	Admissions.	Deaths.
Paris, Sept. 10. Civil Hospitals . . .	43	20
11 . . .	50	20
10 and 11. Military Hospitals . . .	5—98	2—42
Total deaths in all the hospitals		7778
Do. in private houses up to August 31 . . .		10,310
Total deaths since the commencement . .		18,088

Belfast.—New cases during the past week, 60; deaths, 15.

Carlow.—The disease has assumed a milder aspect here.

Downpatrick.—New cases during the past week, 23; deaths, 12. Total cases, 120; deaths, 64.

Waterford—Cork.—No new cases have been reported for some days.

The disease prevails more or less extensively in many parts of the county Dublin—as Rathfarnham, Roundtown, Maynooth, Kingstown, Rush, &c. At Rush, the mortality has been very considerable in proportion to the number of inhabitants. At Maynooth the cholera hospital had been closed, as the disease was supposed to have subsided.

A sudden outbreak of cholera occurred during the past week among the boys belonging to the Hibernian School, Phœnix Park. Nineteen deaths were reported up to the evening of the 16th.—*Dublin Medical Press.*

THE CHOLERA IN CANADA.

Our predictions have been realized, the dreaded scourge has visited us, and since our last number went to press, has numbered its thousands in the province, and appears from all accounts to be spreading. We give the following statistics of the progress of the disease, and with reference to this city we may observe, that we are satisfied that at least nineteen deaths had occurred before the period specified in the commencement of the report.

From the 2nd of July, 1849, to 2nd August, 1849, there were in the city of Montreal 859 burials, of which 439 were those of persons who had died of cholera.

In Quebec the disease has been much more virulent, and has expended itself, as we are informed, chiefly at the Cove, one of the most filthy districts of the city. To July 31st, at noon, the total number of deaths from cholera was . . 671

In Toronto the total number of cases up to July 30 was .	209
And deaths	119
In Hamilton, up to July 26, there had been	6 deaths.
In Lachine, up to July 24, there had been	2 "
In Cobourg, up to July 31, there had been	1 "
In Kingston, up to August 1, there had deen	32 "

The disease has also, we are informed, appeared at St. Vincent de Paul, Berthier, Chambly, Henryville, Missisquoi Bay, Chateaugay, and Beauharnois; and has proved peculiarly malignant at the two latter places. In Kingston, the disease has evidently lulled, no fresh cases having occurred; we have heard, however, of a few new cases, and probably by this time the disease is again on the increase.

From information furnished by Dr. David, the Secretary of the Board of Health, we discover that the disease commenced in the following places in the following order:—

Quebec	July 4.
Kingston	" 7.
Toronto	" 6.
Hamilton	" 18.
Lachine	" 23.

The information furnished to the Board of Health must be, therefore, erroneous; for Dr. Yates' letter, published in our original department, clearly shows that the disease existed in Kingston as early as April 30th; and we are, moreover, confident that cases of it, proving fatal, occurred in this city, about the 15th June. We alluded to these cases in our last issue.

The disease is very prevalent in the chief

cities of the adjoining republic. It exists in New York, New Orleans, Cincinnati, Buffalo, Chicago, St. Louis, Richmond, Baltimore, Philadelphia, &c. At Baton Fouge, La., at a place of Mrs. Minor's, it has carried off 100 out of a population of 220. At Natching, Memphis, and Nashville, it has also appeared. It exists at Lexington Ky., and Albany, and a few cases have also appeared at Boston. One city has been visited in an especial manner, we allude to Sandusky, on Lake Erie—out of a population not exceeding 3000, not more than 700 now remain! The deaths for the two days preceding July 30, amounted in that city to 100. This city is badly drained, as we are informed, and is, moreover, located on alluvial soil, clearly showing the predilection of the disease, if we may so speak, to wet and marshy localities.

The disease has, undoubtedly, travelled eastward; and Kingston has at this its third visitation proved the starting point, from which it has radiated in all directions. Not a single case has yet occurred at Grosse Isle. The Quarantine Station has not therefore excluded it.—*British American Journal*, August.

THE CHOLERA COMMUNICATED BY THE MILK.

In a late return of the Registrar-General, the death of an infant, aged five months, is registered from cholera. The return states that the mother had an attack of cholera, which appears to have affected the child from taking the breast.

THE CALOMEL TREATMENT, AND THE DEATHS FROM CHOLERA IN HULL.

[The subjoined statement, taken from a Hull paper, shows that the treatment by small doses of calomel, if resorted to, has very little effect in staying the ravages of the cholera.]

Again it is our painful duty to record an increase in the mortality of our town. Through the kindness of the registrars we have been favoured with accurate returns of the deaths from cholera, diarrhœa, and all other causes, registered during the seven days ending yesterday evening. The detailed particulars will be found in the carefully prepared table inserted in another column, of which the following is a summary:—

	Week ending 13th inst.
Total number of deaths registered during the week . .	611
Of which from cholera there are	449
,, diarrhœa . . .	58

This, as we have said, is an increase upon the previous week, when there were—

	Week ending 6th inst.
Deaths from all causes . . .	491
,, cholera . .	379
,, diarrhœa . .	35

There is, consequently, an increase upon the week of 120 deaths from all causes, 70 from cholera, and 23 from diarrhœa.

The rapid increase of mortality from the prevailing epidemic may be seen from the following table:—

	Deaths from cholera.
Week ending August 9 . .	15
,, ,, 16 . .	35
,, ,, 23 . .	104
,, ,, 30 . .	184
,, September 6 . .	379
,, ,, 13 . .	449

There were a few cases—but very few—prior to the time at which the above table commences. Altogether there have been about *twelve hundred* fatal cases of cholera in the town during the past two months: very nearly four times the number of the deaths which took place from that disease in 1832, and considerably more than have occurred in any town or city, out of London, during the present year. We may add, as a statistical fact, that the deaths during the past week have been *fifteen* times more numerous than the average mortality of the town at this period.

INTRAMURAL INTERMENTS. — THE SOUTHWARK GRAVEYARD.

At a recent meeting of the vestry of St. Saviour's, Southwark, respecting the order of the Board of Health for the closure of the Crossbones Burial Ground, it was stated by Mr. Clarke, in support of the order, that it was forty years since this churchyard had been complained of as a nuisance, and at that time the laying down of grave-stones was prohibited. Ten or twelve years after it was determined to lower the surface, which had grown up to a considerable height. The ground was lowered three feet, and the earth carted to Doddington Grove, Kennington, which was now built over the bones of hundreds of the former inhabitants of the parish! From 1826 to 1845 no less than 8033 burials occurred in their parish, and these 8033 bodies would take 12,000 square feet of surface, allowing a foot and a half to each, and a depth of six feet—that was supposing them to be buried upright. Their chief graveyard contained only 6000 feet, and the others did not contain 6000 feet more. They had been told that graves could be dug in the middle of the ground to a depth of sixteen feet without touching a coffin; and if that were so, might he ask what had become of the 8033 bodies which had been deposited in nineteen years, which were sufficient to fill double the space, and which would take thirty years to decompose?

EXPENSES THROWN ON PARISHES BY THE CHOLERA. COST OF FUNERALS.

In the last notification issued by the Board of Health, it is stated that the parish of Lambeth was, up to August 27, already burdened with 61 cholera widows, and 226 cholera orphans, who must for years remain a costly burden on the parish. From a small court in Bishopsgate Street, Peahen Court, the parish of St. Ethelburga had already received, up to August 29, 1 widow and 12 cholera orphans, whose maintenance until they are able to provide for themselves, will cost the parish, according to the estimate of a competent authority, not less than £420; while a timely expenditure of £30 in putting the court in a proper sanitary condition would probably have prevented the occurrence of a single case of cholera. The funerals of persons who have died of cholera in the metropolis alone, have already incurred an expenditure of not less than £50,000.

OBITUARY.

On the 9th inst., at Delapré House, Bridport, Robert Graves, M.D.

Recently, at Offenbach-on-the-Main, Dr. Carl Ferdinand Becker.

Selections from Journals.

ON THE CALOMEL TREATMENT IN ALGIDE OR ASIATIC CHOLERA. BY ARCHIBALD HALL, M.D., L.R.C.S.E., LECTURER ON MATERIA MEDICA, M'GILL COLLEGE.

Dr. Graves, of Dublin, in his recent second edition of his "Clinical Lectures," alluding to the treatment of Asiatic or algide cholera by calomel, thus remarks:—"Before we proceed further, I may observe, that the principle on which the calomel treatment was employed in cholera, arose from almost constantly observing that there was a total deficiency of bile in the stools. Soon after the supervention of an attack, the alvine discharges were observed to be white, and without the slightest tinge of bile; and on this very remarkable symptom practitioners dwell almost exclusively, thinking that the patient's only chance lay in restoring the action of the liver. Now it is obvious that the absence of bile in the stools is no more a cause of the disease than is the deficiency of urea in the kidneys, or of serum in the blood. Viewing the disease in this light, it would be just as reasonable to give a diuretic to restore the secretion of the kidneys as to give calomel to produce a flow of bile, &c., &c. I have, therefore, no hesitation in saying that the calomel treatment has no claim to merit on the ground of theory; and as far I have observed the results of it in this country, it seems to be of no practical value in the treatment of cholera."

With every deference for the high character of Dr. Graves, and to that position in the profession to which his talents justly entitle him, and which he has fairly earned, the experience of the calomel treatment in Montreal during the present epidemic is so completely at variance with the above recorded opinion, as to lead to a doubt whether it was fairly pursued in Ireland, or, that Dr. Graves has (what I do not believe) underrated it as a means of relief, for the purpose of advancing a new method of treatment, which might be deemed peculiarly his own. I allude to the treatment by *acetate of lead and opium*, proposed by that gentleman.

Into the remote cause inductive of that peculiar condition of the system characterised by the train of symptoms known under the name of Asiatic cholera, it is not my present purpose to inquire. It is a matter of little moment whether it be of an endemic or epidemic origin; whether terrestrial or atmospheric, whether depending on disturbed electrical equilibrium or of a fungoid character; at the present moment I deal with its effects, and no one who has witnessed the disease can question this statement, that superadded to the ordinary phenomena, there is witnessed a manifest impression upon the nervous centre of a depressing nature, and that this impression is antecedent to the evolution of the several symptoms which follow, and would appear to be inductive of them, varying in intensity, however, in different cases; prostrating the vital and dynamic forces at once in some, effecting its purpose more slowly, but not less surely in others; and in a third class manifesting itself in a more manageable form in the shape of the diarrhœas now so prevalent.

Examining again into the pathological changes induced by the disease, in by far the majority of cases, we find, with the exception of congestion of the internal blood-vessels, but insufficient causes of death. Sometimes the mucous membrane of the alimentary canal is found to be inflamed; at other times not; sometimes pulpy and thickened; at other times blanched and anæmic. Dr. Boehm, at present so worthily supplying Dr. Dieffenbach's place at Berlin, in a recent work shows that "the chief pathological alteration of the mucous membrane in cholera consists in a desquamation of the epithelium," by which it is altogether thrown off, and that the process commences at the lower portion of the ileum where the injection of the blood-vessels is most distinctly seen. The liver is occasionally found congested, at other times perfectly healthy in

appearance. The kidneys have always been found healthy, although suppression of urine is one of the most marked symptoms of the disease. The gall-bladder is almost always found distended with bile. The bladder contracted; and the brain and spinal cord most usually normal in their appearances. What, then, is the cause of death, for there is nothing in these pathological alterations which should not, in analogous cases, afford the fairest anticipations of successful treatment? Take we into consideration the sudden collapse, the enormous drain upon the circulating fluid, the complete arrest of secretion, whether in the salivary glands, pancreas, liver or kidneys, and the utter prostration: couple all this with the deficient and inadequate pathological changes, and we *must* look to an impression on the nervous centre as the *first cause*, the active agent inductive of the mischief, and all the symptoms concur in pointing out the ganglionic system, or the great sympathetic, as the one immediately affected, influenced in its innervation, and destroying, by consequence, the equilibrium of the circulation, and the tone of the capillaries, especially in the intestinal canal; and impeding secretion, and, to a marked extent, absorption.

Based upon the observations made, would appear to arise three important indications—1st, the restoration of the ganglionic system to its pristine condition; 2d, the arrest of the vomiting and purging; and 3rd, the re-establishment of the various secretions by excitation of the glandular viscera. Experience has amply illustrated this fact, that the attainment of the first of these indications cannot be effected by stimuli directly applied. No line of treatment in cholera has proved more signally unsuccessful than the stimulant one, unaided. Ether, ammonia, alcohol in its various forms, camphor, opium, in small and frequently-repeated doses, capsicum, &c., have all failed. This is too well established to admit of dispute. The first indication, then, must be sought to be fulfilled by the exhibition of medicines calculated to secure the second and third, but especially the latter, although the exhibition of stimulants is at the same time necessary and proper to sustain the powers of the system, and to *secure time*. Will what is called the saline treatment effect this? Assuredly it will not; and it is difficult to conceive the precise object to be attained by its adoption. It was at one time supposed that the saline constituents of the blood became diminished in their natural quantity. The experiments of Drs. M'Lagan, Christison, and Robertson, of Edinburgh, proved the reverse of this. What is called the Russian mode of treatment subserves no better end; and the repeated exhibition of opium in the stage of collapse appears to me to be most unlikely to answer any good purpose. There is no medicine with which we are acquainted more surely adapted to suspend secretion than opium, and there is therefore none more unfitted for protracted employment in cholera, in which secretion is suppressed,—and, on the contrary, no medicine seems better adapted to fulfil the several indications than mercury, effecting its purpose by the erethism consequent upon its steady administration, in which the whole system participates.

Calomel in large doses is well known to be a powerful sedative in cases of irritability of the stomach attended with nausea and vomiting; and in the treatment of sporadic and even infantile cholera, no medicine which we possess presents higher claims to consideration. The experience of the first physicians in this province and in the United States might be cited in its favour; and that it should present itself prominently to consideration in the management of an analogous condition of the stomach in the algide variety of the disease, is by no means surprising. Having been exhibited in the commencement of treatment, when symptoms demand it, in the manner, and for the purpose indicated, it should become an object of equal importance to secure its constitutional influence by its steady administration in smaller, frequently repeated doses, combining with it stimulants, especially in the cyanic stage, with the twofold view of exciting the absorbents, and securing time by sustaining the vital powers. When exhibited in the large doses, at the commencement of treatment, especially if combined with morphia, it will be found to act, in the majority of cases, in the most satisfactory manner, allaying the vomiting almost instantaneously; while we afterwards seek to establish its constitutional effects by its exhibition in smaller doses, repeated every half-hour or hour, in accordance with the necessity of the case, combined with camphor, or assisted by sulphuric ether, or some other stimulant of a similar character.

In my own practice, since the epidemic which now prevails commenced, I have had the good fortune to encounter, up to the present period, but ten cases of cholera of the Asiatic variety; and as I have treated them on the principles laid down, I will let the results speak for themselves. To avoid prolixity, I will be as brief as possible in the descriptions, which will be given chiefly for the purpose of pointing out the stage of the disease at which the treatment commenced.

Case I. July 3, 6 P.M.—I was requested by Dr. H., to visit his wife, who was suffering under severe diarrhœa, which had existed during the greater part of the day. The evacuations were frequent, occurring

about every half-hour, and of a bilious character, attended with griping and some nausea; her pulse was regular, but weak, and her countenance was natural. I requested Dr. H. to give her some powders containing Pulv. Cretæ Comp. c. Opio., to which I felt desirous of adding calomel, but to which objection was made, in consequence of the debilitating effects which she supposed it induced, and which she remembered having experienced at an early period of her youth. Satisfied, *pro tempore*, with the prescription, I left, and visited her at 10 P.M. I now found her in a case of incipient collapse, eyes sunk, nails blue; arms, legs, and feet, cold, and the legs cramped; and immediately before my entrance, she had a copious evacuation, presenting the rice-water character, and she had vomited several times. The following prescription was immediately ordered:—℞ Hydrarg. Chloridi, gr. v.; Pulv. Gum. Camph. gr. ij. Fiat pulv.

One to be taken every fifteen minutes until the vomiting ceased.

11 P.M.—Mrs. H. has had four evacuations of the rice-water character, since last visit, but much diminished in quantity; the irritability of the stomach still continues. The cramps have subsided, and the pulse is rather weaker; ordered ice in the mouth: and the powders to be continued every hour, with small quantities of brandy and water from time to time.

12 P.M.—Vomiting and purging quite ceased; the former from the moment of using the ice; the powders still to be continued.

July 4, 3 A.M.—Considerably improved in every respect; has had one motion of a bilious character, and moderate in quantity. The medicines were now discontinued, and calf's-foot jelly, with beef-tea, substituted, each in small quantities, from time to time. From this period she convalesced from the attack, although a fever, of a remittent type and mild form, supervened in the course of a couple of days, and in the course of the week subsided.

The above case was a mild one, and yielded readily to the treatment employed. It was one of the earliest cases in this city.

CASE II. July 8.—Was this morning requested by Dr. Scott to visit Mr. T. S., in consultation. This gentleman had been suffering under diarrhœa, for at least the day preceding the attack, and had partaken on the day previously of a salmon dinner. The diarrhœa was increased by this, and continued during the night, accompanied by vomiting. Dr. Scott was summoned to his bedside about 5 A.M., and prescribed two or three large doses of calomel. When seen at 9 A.M., the vomiting and rice water purging still continued: he was cold, covered with clammy perspiration; countenance collapsed, tongue cold, skin blue, and the skin of fingers in longitudinal wrinkles; pulse almost imperceptible at the wrist; cramps in the legs; suppression of urine, tinnitus aurium, and whispering voice.

The calomel and camphor were now advised, in doses of 5 grains and 2 grains respectively. They were exhibited in pill form every hour, conjoined with sulphuric ether in camphorated mixture, and brandy and water; external applications were also assiduously applied.

9 P.M.—Found the patient but little improved; the vomiting and cramps had ceased, but the rice water dejections still continued. Pulse almost imperceptible. In every other respect there was no change. The administration of the medicine in pill form was now discontinued, and that of powder substituted, given every half hour; steadily pushing on the collateral treatment.

July 9, 9 A.M.—Patient improved in every respect; heat of surface returned; tinnitus aurium gone; voice restored; pulse full and soft; countenance improved, and blueness disappeared; reaction had set in during the night, and he had made water once, and had had two evacuations, of a dark bilious character. He was an altered man in every respect, and expressed himself to that effect. A mildly nutritious diet was now ordered, with other necessary directions. After we left, I am informed, he got up, shaved and dressed himself, and committed other imprudencies. I was sent for on the evening of the 10th, by Dr. Scott, and found him dying. He was in a semi-comatose state, and was sinking under a typhoid attack, which, I have not the slightest doubt, was due as much to his own imprudence as to an enfeebled constitution.

In this case the recovery from the state of collapse, and this, too, of the worst description, was complete, and can be attributed only (?) to the steady employment of the calomel.

CASE III.—Mrs. R. P. had been suffering under a neglected diarrhœa for several days. Shortly after an attack of vomiting, I was summoned to see her, on the 14th July. She had had several "*watery*" stools, as she called them, and now, in consequenee of the vomiting, sought relief. Symptoms of collapse were setting in, and there had been slight cramps in the legs, and considerable griping. One dose of ʒss. of calomel, with gr. j. of muriate of morphia, sufficed to allay the vomiting in the course of half an hour; the calomel alone was repeated at the expiry of that time, and was followed by calomel and camphor, in three-grain doses of each, every three hours, under which the symptoms completely yielded. This patient became salivated, a matter of little moment,

when the question involved is one of life or death.

Case IV.—Mrs. M'C. had been seen by Dr. Nelson in my absence on the evening of July 16; on the morning of the 17th I was called to attend her at 7 A.M. She had been passing rice-water stools during the night, and the stage of collapse was fairly setting in, as indicated by her countenance, her pulse, and her skin. The same treatment was pursued as in the preceding cases, and the result was of the same character, as far as the disease itself was concerned, for which I was consulted. She has perfectly recovered.

Case V.—I was called at half-past four A.M. to visit Mrs. A. She was labouring under vomiting, purging, and cramps of the legs. The diarrhœa, however, had been severe for the preceding six or seven hours, and gradually assumed the rice-water character, and the appearance of the countenance, skin, and pulse, indicated the supervention of speedy collapse. A similar line of treatment was adopted as in the last cases; and although the diarrhœa was more obstinate than usual, yet after the gums were slightly touched it yielded, and she is now perfectly recovered.

Case VI. July 25.—At 8 P.M. I was hurriedly called to see Mrs. M'K., aged 70. When seen she was labouring under all the symptoms of collapse with vomiting, and rice-water stools, superadded to which were violent cramps of the lower extremities. I left with her three powders; No. 1, containing ℈ss. of calomel and gr. j. of mur. morph.; No. 2, ℈j. of calomel, and No. 3, grs. x. of calomel. On my second visit, one hour after, the vomiting and cramps had disappeared; and I prescribed calomel combined with camphor, every hour. Before this time she had passed several rice-water stools; but on my visit next morning I found that the diarrhœa of peculiar character had subsided, and she had passed a couple of dark-coloured stools. She had attained the age of 70 years, and died in the course of twenty-four hours after, of exhaustion. In this case recovery from the state of collapse was also complete.

Case VII. July 25.—At 9½ A.M., I was requested by Mr. M. to visit a young man in his employ, named W. A. He had been suffering under a severe diarrhœa for the five preceding days, for which he had obstinately refused to take advice. Finding himself worse than usual, and vomiting coming on, he consulted Dr. M'Culloch about 6 A.M., who prescribed for him, with instructions to let him know his state at 9 A.M. if not better. In the absence of Dr. M'C. I visited him. Collapse was just supervening; his nails were blue; eyes sunk; pulse small but distinct; vomiting; rice-water stools, and severe cramps of the lower extremities. I gave him immediately ℈ss. of calomel, and 1 gr. of morphia, to be followed by ℈j. of calomel in a half hour, and 10 grs. more in another half hour; and left him several powders, each containing 3 grs. of calomel and 3 of camphor, one to be given every hour. Brandy and water was also ordered, with the usual external applications, sinapisms, &c. At 2 P.M. the vomiting had ceased, and the diarrhœa had moderated, although the character of the stools continued the same. The pulse was more feeble; I continued the powders every half hour. At 6 P.M. I considered the young man to be dying. He was cold, pulseless, in a state of semi-insensibility, and unable to articulate or to swallow, with his eyes fixed, and conjunctivæ injected. In consequence of the supervention of these fatal signs, the attendants had intermitted the medicines for the preceding hour or two. He was now seen by two friends, who, considering that while there was life there was hope, determined to persevere with the treatment pursued during the day, and at the same time continued the external means. In the course of about three hours he passed a couple of bilious, dark stools; and about 10 o'clock they felt pulse at his wrist. Re-action had commenced. Dr. M'Culloch was found in the neighbourhood, and requested to visit him; treatment appropriate to this stage was now adopted, and the young man has recovered from the cholera, although he still labours under consecutive typhus fever.

Case VIII. July 26.—I was called at 11 A.M. to attend G. M. He had attained the age of 40 years, but possessed the constitution of a man of 60, from previous hard living. He was a storeman, and although labouring under a disease of no ordinary character, yet attended to his duties, till compelled by his condition to give up. I saw him about 11 o'clock, about seven hours after the commencement of the severe diarrhœa alluded to. He was walking about, had tinnitus aurium, whispering voice, a collapsed countenance, and feeble pulse. I immediately ordered him to his bed, and left him ℈ss. of calomel with morphia, the calomel to be repeated in half an hour; immediately after I left I understood he began to vomit, and was severely attacked by cramps. On my return in the course of an hour and a half I found that the vomiting had ceased after the exhibition of the calomel; the cramps continued severely, with the purging, which was of the rice-water character, or as his wife termed it, like "sour ginger beer." Three doses of calomel and camphor were now ordered, one to be given every hour. At half-past 2 P.M. I again visited him, and found but little alteration in the symptoms. The blueness of

the skin was complete, pulse more feeble, and the state of collapse more perfect. The calomel and camphor powders were now ordered to be administered every half hour, alternating them with sulphuric ether in camphorated mixture; port wine was also given along with the powders, and ice in the mouth to allay thirst. At 5 P.M. the diarrhœa had subsided to a marked extent, and the vomiting was wholly allayed: he continued gradually sinking until about 2 A.M. next morning, when he died.

This case is the only one which has occurred to me, in which recovery from the state of collapse did not take place.

CASE IX. July 29.—At 4½ A.M. I was called out of bed to visit the child of Mr. G. M., residing in one of the most infected parts of the Quebec Suburbs. The child, two years of age, had been seized with vomiting and severe purging during the night, which excited alarm when the latter was found to assume the rice-water character. Dr. Deschambault, living in the neighbourhood, was forthwith called in, who prescribed for the child; I was afterwards sent for at the hour specified, the parents having been for many years patients of my own. The child was quite cold, with a filiform pulse and collapsed countenance. Shortly before my arrival, it had a stool, which I saw, of decided rice-water character. The vomiting was still urgent. I ordered the child four grains of calomel, to be given every half hour until the vomiting ceased, leaving four such powders, and afterwards the calomel in two-grain doses, to be exhibited every hour, alternated with a tea-spoonful of a mixture containing equal parts of camphorated mixture and water. When seen at 10 o'clock, Mrs. M. had only found it necessary to administer three of the powders, but the camphorated mixture had been given regularly. The child had improved in every respect, and mild nutritious diet was substituted for the medicines.

CASE X. July 29.—G. W. had luxuriated on the vegetables now so common and so cheap, and despised the restrictions of the profession in regard to them. After a hearty dinner, of which green peas and cucumbers formed a large portion, assisted by a tumbler or two of beer, he found that the diarrhœa, which had given him no uneasiness for the preceding two or three days, became suddenly aggravated, with considerable griping and nausea. He tried to allay the symptoms by burnt brandy. About 7 P.M. vomiting commenced, and the stools became more watery; and alarmed by a cramped feeling in his legs, he sent for me, and I saw him about 8½ o'clock. The symptoms had rapidly progressed since he sent off his messenger. The skin of his arms, legs, and face, was blue, and covered with a cold, clammy perspiration; voice whispering, tinnitus aurium, severe cramps in the lower extremities, and occasionally in the arms and fingers, griping in the bowels, which were opened every 15 minutes—the stools presenting a rice-water character; tongue cold to the touch; incessant retching, but bringing up nothing. Pulse small and thready, countenance sunk, and the whole appearance indicative of decided collapse. The same line of treatment was pursued as in the other cases; the irritability of the stomach quickly subsided. In the course of about six or seven hours he passed a bilious evacuation, the pulse rose, and reaction set in. This case also recovered.

In the details of the cases I have sought as much as possible conciseness; my intention having been rather to illustrate the treatment adopted, and to point out the stage of the disease at which it commenced, than to give a long history of symptoms, which in the present disease do not vary essentially in the different cases. I have only incidentally alluded to the collateral external means employed; these consisted in the free use of sinapisms to the spine and epigastrium, and hot applications of various kinds to the extremities, with the internal exhibition of stimulants, of which camphor and sulphuric ether occupied a prominent place.

It has been not unaptly remarked of Asiatic Cholera, that "it is a disease which begins where all other diseases end—in death;" and numberless cases are to be met with, in which the shock to the nervous system is of such a powerfully depressing nature, as to place the absorbent system at once beyond the pale of any influence. Such cases could not be benefited by any treatment, however judiciously or assiduously applied; but if, on the contrary, the vitality of the system is not at once paralysed, if the absorbents can act, no matter to how trifling soever an extent, the fairest prospect is afforded to us, through calomel, of rescuing the patient from an otherwise imminent death. The calomel treatment has then something more than a mere claim on us, on the grounds of theory; its practical employment has proved as signally successful in the hands of other medical gentlemen in this city, as it has done in mine.—*British American Journal*, August 1849.

ON THE USE OF THE PERNITRATE OF IRON IN THE DIARRHŒA PRECEDING CHOLERA. BY THOMAS REYNOLDS, M.D., BROCKVILLE.

IN times like the present, when the newspapers and periodicals of the day are teeming with nostrums and specifics for cholera, it is perhaps trespassing too far upon your space

to add another to the list of recipes before the public; I do so, however, from having observed that a great deal of disinterested philanthropy has been attributed to a medical gentleman in Quebec, for having made known, in rather a boastful way, that he had cured ninety-nine cases out of a hundred, by the use of a preparation of iron (the Tr. fer. mur. in combination with ol. anisi.) It is true that medical men are occasionally mercenary enough to speculate upon the credulous public, who are always so ready to purchase specifics when an epidemic prevails, or is expected; but how few men of standing in their profession are those, who would stoop to such means of trumpeting forth their fame to the world, or, what is after all the ruling passion of the age, lining their coffers with money!

I am happy to say there are few medical men of any eminence who would hesitate to give their brethren of the profession the benefit of their experience, or refuse to respond to a call upon them by the public, during the prevalence of a scourge like the one with which so many places are afflicted.

I have for some months past directed my attention to various preparations of iron, the tr. mur. ferri among the number, to check the diarrhœa which precedes the common cholera of the country, and have found a preparation of the pernitrate preferable to all others. In no instance have I found it to fail to check the first onset of diarrhœa; and in many severe cases where the disease had made considerable progress, I have easily controlled its advance by the administration of a few doses of the preparation. It is frequently necessary to remove some obstruction of deficient secretion, by the use of a dose of calomel or castor oil; of course the practitioner must be guided by the circumstances of the particular case.

Mr. Kerr, of Dublin, some years ago, recommended a preparation of the pernitrate, made by acting upon iron by dilute nitric acid, till a saturated solution was obtained, then adding a small quantity of hydrochloric acid to prevent decomposition. Notwithstanding this addition, a deposit generally takes place of the sesquioxide, which of course is an objection to his preparation.

Mr. Duhamil found that the magnetic oxide was changed into the state of sesquioxide (see Am. Journ. of Pharm., vol. xvii. 1), and he recommended the addition of a quantity of sugar instead of the hydrochloric acid, to prevent this contingency. His formula appears to be a valuable one, and is as follows:—Take of iron wire free from rust, and cut in several pieces, 6 drachms; nitric acid, 1½ fluid ounces; water, 8 fluid ounces; sugar, 14 ounces; dissolve the iron to saturation in the dilute acid, by allowing them to stand 12 hours, with occasional agitation; filter and add the sugar which is dissolved by a gentle heat, and the solution filtered if necessary. One reason for preferring this preparation is, that the iron is here in the state of magnetic oxide, and it has been everywhere observed during the prevalence of cholera, that the atmosphere is singularly deficient in electricity; the employment of agents likely to supply electricity, or its closely allied agent magnetism, is worthy of attention.* To each ounce of the above syrup I add of tinct. opii ʒi. sp. camphor gtt. xxx.; or where there is much pain, of the tinct. capsic. ʒi. to the ounce of syrup. The dose of the mixture, 16 to 20 drops in a little water, repeated every hour till relief is obtained; should there be much pain or prostration, the dose to be administered in a little burnt brandy.

I should be glad to hear that this preparation has been made successful trial of, as it has in my hands proved a valuable auxiliary in the treatment of a very troublesome and often alarming class of complaints with which we are every summer more or less visited.—*British American Journal*, August 1849.

THE LECTURING TRADE AND MEDICAL SCHOOL CIRCULARS.

The preliminary information of the pupil; the conduct of his medical education in some of our medical colleges; the measure of acquirement of the teachers themselves; their anxiety to profit by their situations, to which accident, management, or the influence of political friends have promoted them; and the known fact that volubility of delivery, a fund of anecdote to amuse, rather than a store of scientific intelligence upon which to draw for the instruction of students, and a cultivated familiarity with them, which in effect defeats all proper discipline, and destroys all the deferential respect which should attach to the character of instructors; and, above all, the indefinite multiplication of the schools, contribute infinitely more to make the practice of physic *a trade*, than all other causes combined. Lecturing itself, has become a trade, confessedly such—practised more for its profits than for any other purpose; and professors, like Thespian players, travel around the country for the amusement as well as the instruction of their hearers, till

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* Such are the results of false theory. There is no proof of any connection between the state of electricity in the atmosphere and the origin and diffusion of cholera. We are only surprised that instead of the magnetic oxide of iron, Dr. Reynolds did not at once suggest powdered magnets, or the employment of triturated shellac or sulphur.—Ed. Gaz.

they may find a field of promise where their peregrinations may terminate, and themselves become stationary teachers! If these things are so, can it be a matter of surprise if their pupils should "better their instruction," and become tradesmen too?

It is a fact, and one too pregnant with disastrous consequences to pass without the unqualified censure of the whole profession, that some of our medical schools, in their annual circulars, *invite, nay almost entreat, the public for their patronage;** the present inducements to the half-educated, and even the wholly uneducated youth of the country, to become physicians, promising facilities for study (an abundance of medals and prizes), and full courses of instruction, on easy terms; and on their arrival, accept promises to pay at remote periods, instead of their fees; thus offering bounties to the ignorant and illiterate to crowd the ranks of a profession whose duties and responsibilities require higher attainments, a more elevated moral, greater industry, and a more severe and constant application to study, than any other profession in the whole catalogue of human sciences."

The time was, when the schools of medicine gave character to the profession, but that time has long since passed by; it is now its chief anxiety to prevent the schools from destroying IT. — American Journal of the Medical Sciences.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

Medical Topography and Diseases of the Gulf of Guinea. By W. F. Daniell, M.D.

Lithotrity and Lithotomy, with the Use of Ether in those Operations. By J. M. Warren, M.D., U.S.

Cholera: an Inquiry, Physiological and Pathological. By Protheroe Smith, M.D. 2d Edition.

Pharmaceutical Journal. September 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·46
" " " Thermometer[a] ..... 56·5
Self-registering do.[b] .... Max. 80° Min. 40°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·63 – Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL. — The mean temperature of the week was 1.°3 *below* the mean of the month.

* We could name one medical school, the annual circular of which generally takes its style from the linen-drapery trade:—the "*business of this establishment*" will commence on October 1st, &c.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Sept. 15.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	663	Males....	1351	Males....	513
Females..	639	Females..	1514	Females..	495
	1302		2865		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	2865	1008
Specified Causes	2859	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	2159	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	40	36
3. Brain, Spinal Marrow, Nerves, and Senses	115	115
4. Heart and Bloodvessels	20	38
5. Lungs and organs of Respiration	76	81
6. Stomach, Liver, &c.	67	68
7. Diseases of the Kidneys, &c.	14	8
8. Childbirth, Diseases of Uterus, &c.	8	11
9. Rheumatism, Diseases of Bones, Joints, &c.	3	6
10. Skin	3	1
11. Old Age	42	32
12. Sudden Deaths	17	8
13. Violence, Privation, Cold, &c.	33	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsions	31
Measles	15	Bronchitis	22
Scarlatina	24	Pneumonia	40
Hooping-cough	35	Phthisis	97
Diarrhœa	280	Lungs	7
Cholera	1682	Teething	15
Typhus	66	Stomach	6
Dropsy	14	Liver	13
Hydrocephalus	39		
Apoplexy	20	Childbirth	6
Paralysis	15	Uterus	2

REMARKS.—The total number of deaths was 1857 above the weekly summer average. This great surplus was made up of the deaths from Cholera and Diarrhœa. Of the 280 deaths from Diarrhœa, 181 occurred at the infantile period of life.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

E. L. on Mesmerism.—We saw the paragraph alluded to: and have no doubt that our correspondent has a sincere belief in the existence of a power of clairvoyance. We cannot, however, find room for a discussion of the subject in our pages.

Dr. Parkes has written to inform us, that he will shortly forward to us, for publication, a document which will explain the cause of the error in date, in a case of cholera referred to at page 470 of our last number.

The communication received from the National Institute was too late for the present number.

Dr. Horner's letter, with the Hull Packet, has come to hand.

Mr. R. H. Hunter's note has been referred to the publishers.

RECEIVED.—Morning Chronicle.

MEDICAL SOCIETY

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXVII.

AMPUTATION.—Continued.

Primary amputation should be performed as soon as practicable; reasons for its delay—external violence not the only cause of amputation. Different methods of amputating—preliminary considerations before operating—preparation of instruments — arrangement of patient, &c. Application of tourniquet. Position of surgeon and assistants. Management of knife, of saw—circular method. Flap method—peculiarities of each—precautions to be taken—application of the ligatures—dressing the stump—surgical considerations connected with these different plans—secondary hæmorrhage —irritative fever—treatment—erysipelas—consideration of diet.

When from the operation of any of the causes enumerated in the last lecture, whether their action be immediate or secondary, the removal of a limb is determined on by the surgeon, the operation ought to be performed as soon as he believes his patient to be capable of sustaining the shock; for if the proper moment be permitted to pass, time may be given for the accession of a train of symptoms which may totally prevent recourse being had to the operation at a future period, at least with any reasonable hope of success. Moreover, there can be no advantage in delay when the constitution is suffering from the effects of a severe local injury. Primary operation should always, therefore, be resorted to as soon as the necessity for operation is determined on; unless, as I have said before, some constitutional symptoms render delay positively imperative.

If the patient be in a state of considerable prostration, stimuli must be administered: the operation may then be performed as soon as reaction is established. But it may, and does indeed frequently happen, that at the time of the accident which rendered amputation necessary, lesion of some vital organ may have been produced: under such circumstances amputation ought never to be had recourse to; and on the possibility of such an occurrence it is that surgeons always wait for reaction to take place, before they submit a patient to a surgical operation.

It is not only external violence, however, that leads to the necessity of the removal of limbs, but the diseases of bones, affections of joints, and malignant growths of all kinds, are not unfrequent sources of such an alternative; and under any of these circumstances the same precautions are necessary in the just appreciation of the patient's power to bear the operation, as when constitutional deterioration has arisen from mere local lesions; and the same considerations determine the question as to whether the diseased limb ought to be sacrificed, or whether the vital powers of the patient be sufficient to overcome the diseased action.

In cases of malignant disease no such hope can be entertained, and the only question then is, whether the malady has not propagated itself to some distant part, under which circumstances it would be both cruel and useless to extirpate only a part of the developed malady.

When amputation is determined on, and the time fixed for its performance, I think it is a matter of but little importance as to the choice of the different methods by which it is to be performed. I shall, however, give a description of the varieties in the modes employed by modern surgeons.

The methods of amputating now practised are three: they are termed the *circular*, *oblique*, and *flap* operations; but before any of them are undertaken there are very important preliminary (but too frequently esteemed secondary) considerations to be dwelt on.

The period of the day at which the operation should be performed I consider to be a matter of no little consequence. I always prefer the morning: firstly, because there is a benefit derived from the patient's better condition to support the shock soon after a night's rest; secondly, because the earlier the period in the day, the less time the patient has to brood over the dreaded ordeal; and thirdly, because there is plenty of time before the hour of rest for him to have recovered the shock inseparable from such an operation, and for the securing of arteries should any secondary hæmorrhage take place,—an occurrence which is always much more frightful to the patient if it occur during the night, and the difficulty in securing the vessels is also greater to the surgeon. The room in which the operation is to be performed should be fully prepared before the patient is summoned; or if it be necessary that the operation should take place in the room he already occupies, everything should be arranged so as to be brought in with the least delay and confusion at the moment they are required, the surgeon being a little before his appointed time, as he thus saves

the patient that increase of anxiety as the time approaches. Shall I be thought frivolous, if I recommend you, gentlemen, to rather steal into the house, than to allow your servant to proclaim your arrival by a loud rapping at the door, which excites your patient's alarm, and may indeed render him unfitted to undergo the operation. The surgeon should then ascertain that everything he can want is at hand, and well adapted for his use: every instrument he requires should be examined, and having allotted to each assistant the peculiar duty he is to perform, the patient may be placed upon the table. If it be decided on that the operation is to be performed with the patient under the influence of chloroform, and if the disease is one which renders his removal from the bed to the table very painful, the chloroform should be administered before he is moved, as by this precaution I have known more pain saved than the operation itself would have inflicted if performed without the use of this anæsthetic agent. The operator now determines in his mind the mode by which he intends to perform the mechanical steps, and which is to be decided on by his judgment as to the most appropriate plan to be adopted for the particular case in question: the part of the limb to be removed, the peculiarities of the disease, the condition and relative position of the parts to be saved, and those to be excised, must all tend to modify the direction of the incisions; ever bearing in mind, whatever may be the choice made of the plan to be adopted, that the one great object must be, to leave a sufficient quantity of soft parts to completely cover the truncated bone, so as to form what is technically termed "a good stump," one in which the parts come in such easy adaptation, and from so perfect a covering to the bone, without the necessity of any force to retain them in their position, that all the structures may readily become firmly united by one dense cellular tissue, so as to form a cicatrix, the firmness of which constitutes a cushion competent to support the pressure to which it will be subsequently exposed.

Amputation of a limb may require to be performed either through the continuity of any of its bones, or by the division of the structures constituting a joint; nor is the choice always left to the surgeon, for sufficient important reasons may compel him to amputate through an articulation, when that operation is had recourse to. Of late years some surgeons have recommended amputation of the leg at the knee joint, and the removal of the foot at the tibio-tarsal diarthrosis; but I cannot say, from the statistical account of such amputations, that it should ever be chosen, at least for any person who would afterwards be obliged to make any use of the mutilated limb. Amputations at the shoulder and hip joints are not very unfrequently demanded, the necessity arising either from the injury or disease being so near to these articulations that the surgeon has no alternative in removing the malady than to disarticulate the limb. Malignant disease of a member may also lead to the necessity of this operation, as there is considerable danger of the disease quickly returning if a part of the bone be left which had been continuous with the disease. The phalanges of the toes and fingers, the metatarsal and tarsal bones, or corresponding bones of the hand, are generally removed at their joints, and the amputation of the hand from the fore arm is more frequently performed at the wrist joint, than by sawing through the radius and ulnar.

The tourniquet is now to be applied, and it is better not to place it on the limb until just before the operation is to be performed; for, if the compression be long sustained, the veins become distended, and a considerable loss of venous blood results from the first incision. This may be saved by merely delaying the application of the tourniquet until immediately before the commencement of the operation. Some surgeons, indeed, preclude the use of the tourniquet entirely, and prefer the compression of the main artery by the hand of an assistant, urging, that advantage is derived by this mode of pressure over that of the tourniquet, from the veins not being compressed, and the muscles being better capable of freely contracting when cut through. In cases of very attenuated limbs, and when it is a matter of great importance to lose as little blood as possible, this mode of compression is admissible, and even advantageous, for the reasons given; but in large limbs I am an advocate for the use of the tourniquet, and myself scarcely ever amputate without it, more particularly in private practice; for, if the patient be not steadily held, there is great liability of the artery escaping from the compression of the assistant, and an inevitable loss of arterial blood is the result. Besides, if the pressure has long to be sustained, which is not unfrequent, from the difficulty often arising in securing the bleeding vessels, the assistant becomes so fatigued from his protracted exertion, that he fails in perfectly staying the hæmorrhage, and a loss of blood is the consequence. When, therefore, the tourniquet is to be applied, it should be placed as high up on the limb as possible, for the purpose of compressing the main trunk of the vessel above the distributions of its various branches, so that the circulation of the blood may be prevented to the parts below; and a further advantage is derived from the high position of the tourniquet—it is less capable of interfering with the contraction of the superficial

muscles after their division,—a point most essential to be ensured for the formation of a good stump. There is some little skill required in the adjustment of the tourniquet to secure all the advantages derived from the instrument: I should therefore advise every operator to apply the tourniquet himself, unless he is fully acquainted with the capability of his assistants; for, if he has been careless in this respect, and the artery has not been effectually compressed, in the middle of his amputation he may find to his confusion that he is embarrassed by a fearful gush of blood as he divides the main artery of the limb, and some other pressure must be immediately employed to stay the hæmorrhage. The mode of applying the tourniquet is to place its pad immediately on the artery to be compressed, and so as to cross it a little obliquely, which ensures its retaining its position when the screw of the tourniquet is tightened, much more certainly than if the pad be placed quite parallel with the vessel: the straps of the tourniquet are then to be passed around the limb and back again, and tied in a single knot on one side the screw, then on the other, and then being carried back are to be tied tightly on the outside of the limb exactly opposite to the point of the compression of the artery, and the screw is then to be turned until the pulsation of the compressed artery is entirely stopped. A turn or two of a wetted bandage is sometimes placed around the limb, before the tourniquet is applied, to prevent the straps injuring the integuments; but there is rarely any necessity for this precaution, and I think it somewhat interferes with the accurate adjustment of the instrument. Directly the tourniquet is tightened, the limb is to be well supported by the assistants, and firmly held at the most convenient height for the operator. The position is sometimes obliged to be modified, from the peculiar disease of the limb, or the kind of operation to be performed; and these variations must be arranged by the operator himself, as he alone can place the limb appropriately for the purposes he intends to adopt, and which are probably unknown to his assistants. Indeed, the surgeon himself may not have made up his mind as to the steps he intends to follow until he has had this opportunity of judging of the operation most applicable to the case; and I have myself been frequently induced to change the mode of amputating I had intended to employ, before I had had this best of all opportunities for a critical estimation of the most appropriate method. Of late years the flap operations have been very generally employed in this metropolis; and I think I may say the late Mr. Liston was a great promoter of this mode. I have very frequently adopted it: I must confess, however, that I am much disposed to go back to the circular incisions, from a pretty clear conviction that better stumps are produced by the old plan and that the vessels are more readily and more securely tied, being much less likely to be wounded above the face of the stump than when the limb is transfixed for the purpose of making the flaps It is certainly true that the flap operation is more quickly performed, but as chloroform is now so much employed, the little additional time is a matter of much less importance. I had thought until very lately that the flap operation had been almost invariably adopted in Paris: I was told, however, by M. Velpeau, that, on the contrary, it is much less seldom had recourse to than in London; and unless some peculiar circumstances demanded it he himself always preferred the circular operation.

In the amputation of a limb, I always stand so that the patient's body is to my left hand: I therefore place myself on the outer side of the right, and on the inner side of the left, extremity: it is advanced by some surgeons that by this mode of proceeding you lose the advantage of grasping with your left hand the part to be removed while sawing. But I consider this loss more than compensated for by the greater facility with which the incisions can be made, as in the other position you are obliged to use the knife with a back-handed motion while cutting the soft parts from the bone.

When the circular mode of operating is selected, the following plan of procedure is to be adopted:—The limb is to be steadily held in a horizontal position, and at a convenient height for the surgeon, by two assistants, one of whom is to grasp the limb above the part where the amputation is to take place, forcibly drawing the integuments upwards, while the other assistant is to hold the distal extremity of the limb. The surgeon then placing himself with his left side towards the patient, and having considered the precise point at which he intends to saw through the bone, commences his incision through the skin two or three inches below that point, by placing the heel of his knife on the centre of the upper surface of the limb. This he can only effect by stooping in a half-kneeling position; and passing his right arm under the extended limb, he draws the knife, with a moderate degree of pressure, towards himself, and rising at the same time to the erect posture, and allowing the handle of the knife to turn forwards between his fore-finger and thumb, he completes his circular incision by bringing the heel of the knife to the spot where he first commenced the incision, and with little practice he will be enabled to complete this with one sweep of his knife. This incision should cut through the skin, cellular mem-

brane, and fascia, and to the same depth through its whole course. These tissues are then to be reflected (as the cuff of a coat is turned back) to an extent depending upon the size of the limb, to effect which some few touches with the point of the knife will be required to detach the fascia from the subjacent muscles. A second circular incision is then to be made in the same manner as the first through all the muscles directly down to the bone, the incision commencing close to the everted edge of the reflected integument, when, in consequence of the more forcible retraction of the superficial muscles, the deeper ones, which are attached to the bone, will require another circular incision or incisions completely to denude the bone up to the point where the surgeon intends to saw it through ; and in stout muscular patients, it is often advisable to use a linen retractor to expose the bone at the proper point for its division. The saw is now to be used by placing its heel upon the bone close to the cut edge of the deep-seated muscles, and by a gentle backward and forward motion of the hand it will fix itself in the bone : the point of the saw is now to be directed downwards, when by a vigorous and rapid sawing motion, but without much pressure, the bone is readily sawn through without splintering, unless the assistants who are holding the limb perform their duty awkwardly, either by too much pressure at the distal end splintering the bone, or by raising it "locking" the saw. The difficulty arising from the latter occurrence the surgeon may obviate by not attempting by his own violent use of the saw to release it, but by desiring the assistant to depress his hands slightly the saw will become immediately free. Should there, however, be any irregularity in the sawn surface of the bone, the projecting portions should be removed by the "bone-nippers." The next part of the operation consists in securing the arteries, and the future well-being of the patient depends much upon the manner in which this important step is effected. The main truncated artery should be first secured ; to effect which it should be seized with a pair of forceps and drawn out of its sheath, so as to expose a sufficient length of the vessel that the ligature may be applied some distance above its open mouth, and preclude the liability of the force of the heart displacing it. Should there be any difficulty in finding the vessel, in consequence of its great retraction, which does not unfrequently occur, the tourniquet may be slightly loosened, so that the escape of blood may point out the precise position of the bleeding vessel, although it may still be necessary in some cases to slit up the sheath before the artery can be secured. The remaining arteries are then to be secured in a similar manner ; and when all seem to have been placed in safety, the tourniquet may be removed, which should be done as soon as possible, as its compression frequently keeps up a venous bleeding ; and, should any arteries bleed after the tourniquet has been removed which had hitherto escaped notice, a ligature must be placed around them.

The surface of the stump should then be washed with cold water ; taking care, however, not to remove the small portions of coagula too assiduously, for it is to be remembered that they constitute the means of preventing hæmorrhage from many small vessels which will bleed again directly these natural plugs be removed, and lead to the necessity for ligatures, which would otherwise not be required. The edges of the stump may now be brought together and maintained in adaptation by one broad strip of adhesive plaster, a second portion being put around the limb pretty firmly, to prevent the retraction of the soft parts from the extremity of the bone. The stump should not be permanently dressed for four or five hours after the operation, and then with all the tenderness possible,—as if, indeed, the pain inseparable from the act were to be inflicted on the "dresser" instead of the patient. This second dressing of the stump is to be effected by removing the plaster which had been put on immediately after the operation, and separating the edges of the soft coverings to the bone, for the purpose of ascertaining if there be any vessels still bleeding ; if so, they must be secured : the edges of the wound are to be again brought together, and maintained in coaptation by adhesive plaster,—an assistant, at the time of the plaster being applied, pressing the soft parts forward over the extremity of the bone, so as to prevent the possibility of any pressure being produced by the bone upon the approximated edges of the integuments. A bandage being then pretty firmly bound around the limb from the proximal joint to the stump, while at the same time the assistant is drawing the soft parts forwards, will usually prevent any future retraction of the muscles, and consequent projection of the bone, the effect of which is to form what is termed a "conical stump." All the precautions you may take will not always prevent this untoward occurrence ; and the fault may be on the part of the operator, from not having left sufficient covering to the bone ; but it more frequently results from the natural tendency of the muscles to retract, which can only be obviated by judicious dressing. On the fifth or sixth day the stump should be again dressed, and with the same precautions as before : the strips of plaster should be removed with the greatest gentleness, and not

all at once; but, commencing from the top of the wound, two or three strips may be removed, the edges of the wound gently sponged, and fresh pieces of plaster applied before the lower strips are displaced, as in this way a support is maintained to the wound during the whole period of the dressing: care must also be taken that in removing the plaster you do not interfere with, or draw upon, the ligatures, as any interruption to the natural process of sealing the arteries might induce a secondary hæmorrhage. In the first dressing, the ends of the ligatures should always be brought out of the wound in the most direct line from the vessel to which it is attached; for if they be all bundled together for the purpose of bringing them out of the stump at one angle of the wound, they not only act as a greater source of irritation, but they traverse so much of the wound as to materially interfere with its healing. The stump, under favourable circumstances, heals as readily as other incised wounds, but there are many circumstances which may interfere and retard its perfect union: some of these may arise from physical and others from constitutional causes: the object of the surgeon must therefore be to remove these sources of interruption by the application of appropriate remedies, which constitute, indeed, a higher order of surgical knowledge than the dexterity displayed in the amputation itself. These considerations apply, however, equally to the healing of every kind of stump, whatever may have been the mode of operation adopted. I shall speak of the surgical after-treatment when I have finished the description of the flap operations.

The mode of performing the operation of amputation by flaps differs from that in the circular operation, inasmuch as the covering of the bone is formed by one or more flaps obtained from the surrounding soft parts; and this kind of operation may in certain cases be most judiciously adopted: for instance, when, either from accident or disease, the integuments and muscles have been so implicated as to preclude the possibility of leaving sufficient covering to the bone by the circular mode, and which may be readily effected by the flap operation. Such circumstances as preclude the possibility of amputating by the circular mode immediately above the seat of injury or disease would often lead to the necessity of removing the limb higher up, and even of sacrificing a joint, were not the flap operation had recourse to. By this mode the covering of the bone may be made either wholly from one side or from the anterior or posterior aspect of the limb, as occasion may require. It is not improbable that, from the employment of this mode under such conditions, some surgeons have contemplated the idea of always using it in preference to the circular operation; but it seems to have been first recommended by a Mr. Lowdham, a surgeon at Oxford, in about the year 1679: I believe, however, he only adopted it in the minor amputations, such as fingers and toes.

In peforming the flap operation, the limb to be amputated must be prepared precisely in the same manner as has been described for the circular incision; that is to say, the artery compressed, and the assistants holding the limb securely. The surgeon stands also in much the same position, and on the same side of the patient, and maps out in his mind the best mode to be adopted to secure the formation of a good stump; or, in other words, to leave an ample covering to the bone by making either one or two flaps, as the nature of the case will best admit. These flaps, or the single flap, may be made either by transfixing the soft parts by a double-edged knife, and then by cutting from within outwards; or he may produce the same flap by cutting from without to within, by making two incisions, dividing the soft parts in the form of the letter **V**. When these flap operations are performed in the continuity of a bone, they must be made on both aspects of the limb,—but if at a joint, one flap alone will suffice; for the disarticulation of the head of the distal bone will enable the surgeon to cut his way out behind the joint without transfixing the soft parts.

In amputating a limb by the double flap operation, the flaps may be made from the sides of the limb, or from its anterior and posterior aspects, according to the choice of the surgeon; and it is generally directed that the larger flap should include the principal vessels of the limb: and in this case the operator, in transfixing the soft parts, directs his knife as close to the bone as possible, so that, in cutting his way out, he denudes the periosteum completely from the deep-seated muscles for what he considers a sufficient distance for the size of the flap required; and then, by turning the edge of his knife slantingly, cuts his way out, requiring little else than the division of a few fibres still attached to the bone, and the use of the saw, to complete the removal of the limb. In the amputation of the larger limbs, as the thigh, leg, or even the upper arm, I have of late modified this operation, as I have considered that, in adopting the plan described, the flaps are rendered unnecessarily bulky and heavy, and that the vessels are very liable to be wounded higher up than where the bone is sawn through, often leading to considerable difficulty in securing them; the nerves are also left very long, and are rendered, therefore, more liable

to future interference. To obviate this acknowledged inconvenience, it is recommended to subsequently cut off these strips of nerves. The necessity for such a step I am of opinion had better be avoided; for, to say the least of it, additional pain is caused: or even should chloroform have been administered, this mode of procedure is likely to increase the irritating effects of the operation upon the constitution.

In performing the double-flap operation, I have been lately in the habit of comparatively superficially transfixing the limb with the long knife, leaving a large mass of muscle still covering the bone; and then, having the flaps well drawn upwards, have completed the separation of the muscles by circular incisions, cutting through the vessels and nerves in the second use of my knife, by which mode I entirely avoid the inconveniences alluded to. When I first adopted this plan I had once or twice rather a deficiency of skin, especially when operating on the thigh: this arose from the great weight of the posterior mass of muscle drawing the integuments tightly over the anterior aspect of the limb, so that the width of skin left was not sufficient to cover the whole of the stump. My friend, Mr. Skey, to whom I was speaking of this operation, told me at once of an effectual method of overcoming the difficulty I have mentioned, by merely having the under surface of the thigh supported, or rather pressed up towards the femur, by an assistant, before the knife was passed through; by which mode the lateral dimensions of the whole thigh are increased, and a proportionately greater quantity of skin included in the flaps. This mode of operating may be considered as including both the flap and circular operations.

The treatment of the stump immediately after the amputation is precisely the same as what has been already described, but I think is somewhat more troublesome to manage, in consequence of the greater liability to bleed, from the danger, as I have already mentioned, of some of the vessels having been punctured by the knife above where the ligatures have been applied. In the partial dressing of the stump immediately after the operation, if some very small vessels continue to bleed, torsion may be tried to check the hæmorrhage, and to avoid the application of too many ligatures, which must interfere with the healing of the wound; but if any of these should still bleed at the period of the permanent dressing, torsion must no longer be attempted, but a ligature at once applied, for there is nothing so distressing to the patient, or which causes so much interruption to the union of the stump, as the necessity for removing the dressings after they have once been applied; and many a case I am certain has terminated unsuccessfully wholly from this circumstance: the application of ice to a stump will frequently at once put a stop to the oozing of blood, which in some cases proves so obstinate. Such cases of bleeding as arise from want of due precaution in securing the vessels are not to be termed "secondary hæmorrhages," the scientific acceptation of the term implies bleeding resulting from some constitutional cause rendering the arteries incapable of being obliterated from the application of the ligature, so that when it separates from the vessel hæmorrhage supervenes. The danger of such a result depends upon the period at which it has occurred after the amputation; for if it be only two or three days after, there is reason to believe that some vessel had escaped the surgeon's observation, and had now bled upon the accession of the action necessary to the union of the stump, in which case the wound must be re-opened, the clot of blood turned out, and the vessel secured; but if secondary hæmorrhage comes on the third week after the operation—at the period, indeed, when the ligature separates from the main trunk of the limb—there is too much reason to fear that the artery, from some deficiency of vital power, is incapable of becoming obliterated by the adhesive process. In such a case I should try gentle compression on the main artery of the limb, apply a bladder of ice to the stump, and administer a dose of opium; and should not these means succeed in checking the bleeding, I should place a ligature on the artery at the upper part of the limb, and not attempt to find the bleeding vessel by laying open the stump, in which there is great probability of failure, and a certain additional source of constitutional disturbance to the patient. I have found from my experience that secondary hæmorrhage after amputation is most dangerous at that period at which the ligature should naturally be separated from the principal artery, and that, if it occurs subsequently to that period, pressure on the vessel above will usually be sufficient to restrain the bleeding without the necessity for the application of a ligature; for I am inclined to believe that these later bleedings do not occur from the large vessels, but from some of the over-charged collateral branches. Bleeding, however, is not the only circumstance which may occur to retard the healing of the stump after amputation; various constitutional derangements may also interfere with this process: a few hours after the operation irritative fever usually more or less supervenes, marked by a white tongue, hot dry skin, anxious countenance, restlessness, and thirst. This attack is not to be combated by severe antiphlogistic remedies, but by narcotics and sudorifics, and I usually order the following remedies:—

℞ Hydrag. Chloridi, gr. iss.; Pulv. Jacobi veri, gr. iij.; Pulv. Opii, gr. ss. M. ft. pil. And should the bowels become constipated, the following mixture:—℞ Magnes. Sulphat. ℥vj.; Liq. Ammon. Acetat. ℥j.; Liq. Antimonii Potass. Tart. ℥j.; Tr. Hyoscyami, ℥j.; Aquæ destillat. ℥vij. M. Capt. Cochl. larga, ij.; quaqua 4ta hora donec alvus responderit. If sickness is a prominent symptom, effervescing saline draughts should be prescribed; and every precaution at the same time should be taken to place the stump in the easiest position to the patient, and ice or poultices may be applied as the indications may dictate. The removal of a strip of plaster from a stump will frequently at once remove all the febrile symptoms, and the necessity for this source of relief will be indicated by pain, and a sensation of fulness of the stump, resulting from effusion either of blood or serum. It does not, however, necessarily follow that a patient should be the subject of such a febrile attack, but all may be going on most favourably for the first fortnight, and the stump appear to be nearly healed by adhesion, when, without any apparent cause, on the next dressing a discharge may be found, from the appearance of which the surgeon will decide upon the treatment required: perhaps there is no better test of the constitutional condition of your patient than the nature of these effusions, which may be either blood, pus, or a plastic effusion: under this condition there is ample opportunity for the surgeon to display his scientific knowledge; and, perhaps, of all the late improvements in the science of medicine, there is none more important than the study of the "anatomy of the fluids," which the use of the microscope so perfectly discloses. Whether alteratives, stimuli, or tonics are to be administered, may almost unerringly be decided on by the appearance of the effusions from a wound, although I do not mean to imply that there are not many other symptoms by which the condition of the patient may be recognised.

Even at a later period than this, untoward circumstances may arise, and lead to the reopening of a stump after it seems to have perfectly healed: such an occurrence often results from a portion of the bone exfoliating, an event which is not always to be attributed to any fault of the surgeon in sawing through the bone, as a diseased condition of the bone itself may have led to its ultimate death. A ligature which may have included a portion of muscle or tendon may also for a length of time retard the completion of a cure after amputation; and these protracted sources of irritation sometimes lead to a diseased condition of the truncated extremities of the nerves, which become bulbous, morbidly sensitive, and often productive of such severe neuralgic suffering, and consequent contraction of the muscles of the amputated limb, as to lead to the necessity of a second amputation. Nothing in the form of medicine seems to avail in these cases; nor, indeed, does secondary amputation always succeed, as where there is a constitutional tendency to this kind of neuralgia the disease returns after secondary amputation has been performed. I have already related a case of this kind in which three amputations were unsuccessfully performed, but where the fourth, at the shoulder-joint, proved effectual.

Erysipelas is also a frequent cause not only of retarding the healing stump, but too often leading to the death of the patient after amputation; so that no surgeon should perform the operation while there is any epidemic tendency to erysipelas, either in public or private practice, unless the urgency of the case demands the immediate operation, and the risk of waiting would be greater than that from erysipelas. As soon as the irritative fever resulting from amputation has passed away, I am quite sure generous diet is one of the surest modes of treatment to secure the rapid union of a stump, at the same time interrupting as little as possible nature's progress and process of reparation by over interference with the wound.

THE PREVENTION OF DISEASES ACT. ORDER IN COUNCIL.

By an order in Council, dated September 25, the provisions of the act for the prevention of epidemic, endemic, and contagious diseases, are directed to continue in force throughout the whole of Great Britain for a further period of six calendar months from and after the date of the order.

THE CHLORIDE OF ZINC AS A DEODORIZER.

Lieutenant Jackson has recently presented to the City Commissioners of Sewers a memorial from Sir W. Burnett, on the use of the chloride of zinc as a deodorizing material of extraordinary efficacy.

*** We have found the chloride of zinc to be far inferior to the chloride of lime, in removing foul effluvia where these are diffused through the *atmosphere*. It does not evolve chlorine, nor is it possible to understand, as the chloride is a perfectly fixed body, how it can act as a deodorizer, except by being brought in direct contact with the solid or liquid substances which evolve sulphuretted hydrogen. We shall be glad to receive from our readers any facts which they may have observed, tending to show that the chloride of zinc is what the newspapers call it, an "extraordinary" deodorizer, or that, as such, it has any advantage over the chloride of lime.

Original Communications.

REPORT OF A SERIES OF MICROSCOPICAL INVESTIGATIONS ON THE PATHOLOGY OF CHOLERA.

By F. Brittan, M.D. M.R.S.C.L. &c.

Lecturer on General Anatomy and Physiology at the Bristol Medical School.

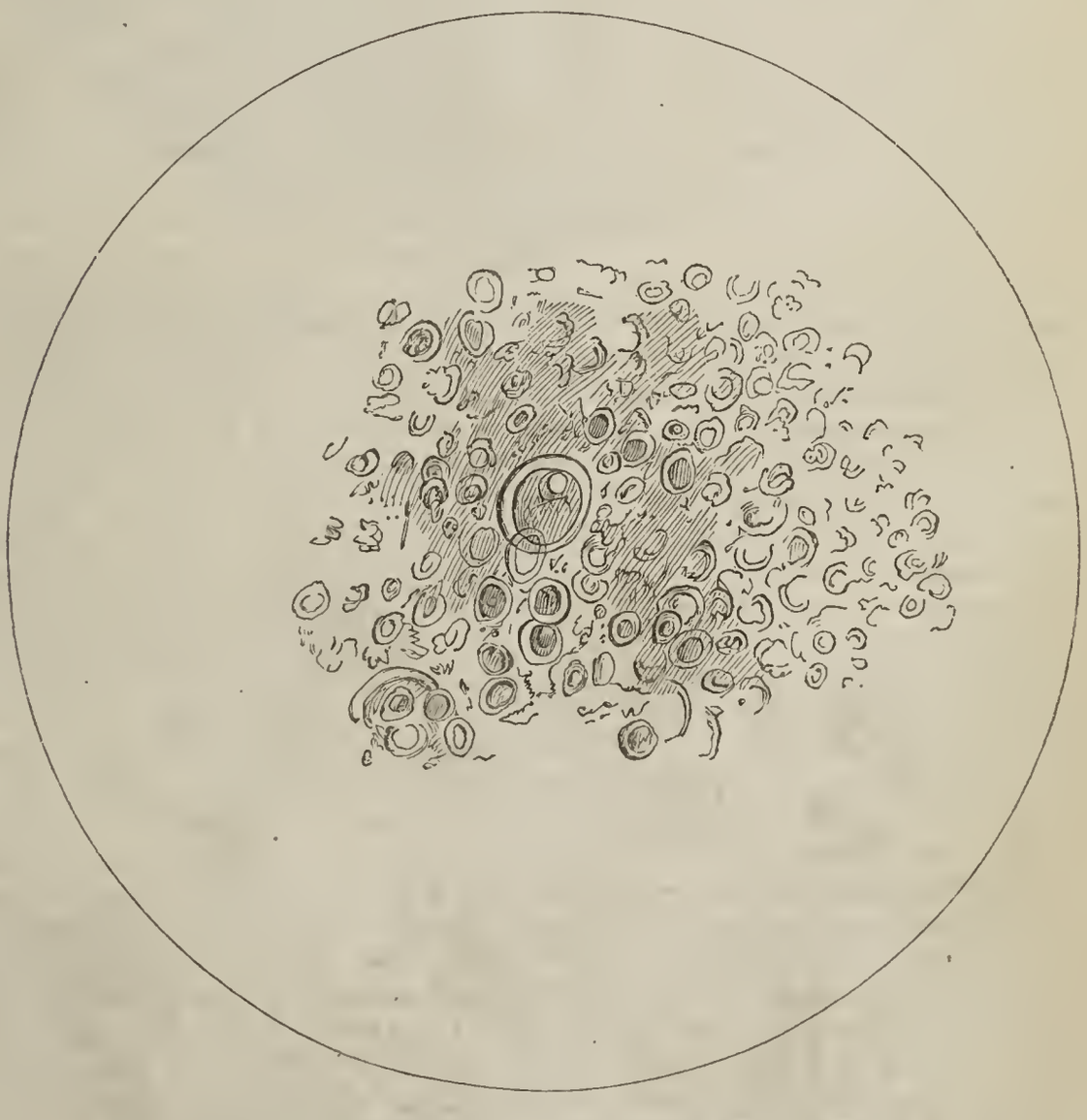
The phenomena of such a disease as cholera, a great pestilence which, sweeping over the world, involves all lands and all nations in one common dread and mourning, awaken an universal interest far more deep and anxious than any ordinary curiosity in the current of passing events. The medical profession has been appealed to, but with the effect, unfortunately, rather of increasing the mystery and apprehension, than of imparting confidence. It must be honestly confessed that we know nothing of the exact nature and cause of cholera, and in the absence of any one common point on which all professional men are agreed, it would seem as if each considered himself at liberty to throw out his opinions and theories, though based on no previously recognised principle, and without a single well-ascertained fact to support them,—perhaps in the vain hope that at last, in their very multiplicity and variety, some one must hit upon the true explanation. Thus it is that our daily papers and medical periodicals teem with histories, theories, remedies, and even specifics, of so directly opposite character, all eagerly devoured by the public, and all alike falling before the test of inquiry and experience, until the disease has begun to be looked upon as a hopelessly inscrutable mystery, and anything that is put forward in regard to it as only another baseless speculation.

Influenced by these circumstances, I have been most anxious to avoid doing or saying anything that could add to the confusion, or mislead those who were really studying the disease, from the right path, and have refrained from making public my own opinions, until the facts they were based on had been submitted to the examination of those most competent to give an opinion on their validity. I have now done so. I have shown to some of the best microscopical authorities in the kingdom my own specimens prepared from cases described in Table I., and represented by the engravings. I have substantiated them on examples furnished by these gentlemen themselves, and it is with their full concurrence and assurance of their importance that I lay the following facts before the profession. It must be borne in mind that they are put forward as facts, and not mere opinions, and that the validity of my statements have been and can be demonstrated to be true or false by any one who will take the trouble. In order, however, to simplify the whole matter as much as possible, I shall confine myself to a plain historical detail of the investigations.

On Monday, July 9th, in conjunction with Mr. J. G. Swayne, as fellow-member of a sub-committee appointed by the Bristol Medico-Chirurgical Society for the microscopic investigation of choleraic evacuations, I examined two specimens of rice-water dejection (numbers 1 and 2 in both tables); and on comparing our drawings made from them, and produced before the sub-committee, we were struck with the peculiar appearance of certain bodies depicted in each. On further prosecuting this investigation, I found these bodies to be constantly present in the rice-water evacuation of cholera patients, and offering the same characteristic appearance that distinguished them from anything I had before observed. In order to ascertain if they bore in their size or quantity any relation to the severity of the symptoms, I endeavoured to obtain specimens passed by the same patient at different periods, as well as to complete the observation by an account of his condition at the time. The result was, that as several cases in my table indicated, and as other cases not recorded seemed to prove, I became convinced that a certain relation does exist between the size and number of these bodies, and the time elapsed after the seizure, taken in connection with the severity of the symptoms. That is to say, they are small and clearly defined in the matter vomited (fig. 2); they become larger and more compound

in the dejections (fig. 3); and as the disease progresses favourably, where I have had the opportunity of examining, they vanish as the symptoms disappear, and the motions regain their natural appearance. I have also found that in very rapidly fatal cases these bodies are sometimes to be met with only in very small quantity, or are altogether absent, though this observation must be qualified by the remark that it is not always possible, or at all events has not been with me, to obtain portions of every motion passed, and that these bodies might have been present in those not examined.* It must also be recollected that but a small quantity is saved for investigation, and but an infinitesimal part of that even ever comes actually on the stage of the microscope. My observations contained in Table I. were made on cases taken just as they came under my notice, and without selection; some in the cholera hospital, some through the kindness of Mr. Ralph Bernard, in the Bridewell: they extend in dates from July the 9th, to July the 30th. Whilst collecting this series, I examined and compared the specimens with others obtained from patients free from cholera. I found that in healthy solid motions these bodies did not exist (fig. 4), nor could I meet with them in the fluid stools of typhus and other diseases, but that they were present in the cases of severe choleraic diarrhœa so prevalent in districts where the disease abounds; and I was thus led to the necessary inference that these bodies were peculiar to the evacuations of cholera patients, and must have some essential relation to the disease.

Fig. 1.



* On every opportunity that I have had of examining the intestines of those who died from cholera, these bodies have been found adhering to the mucous membrane in shreds of white matter, and very abundant; and the inference is, that in these very rapid cases they are in the intestines, though not given off in the evacuations.

FIG. 2.

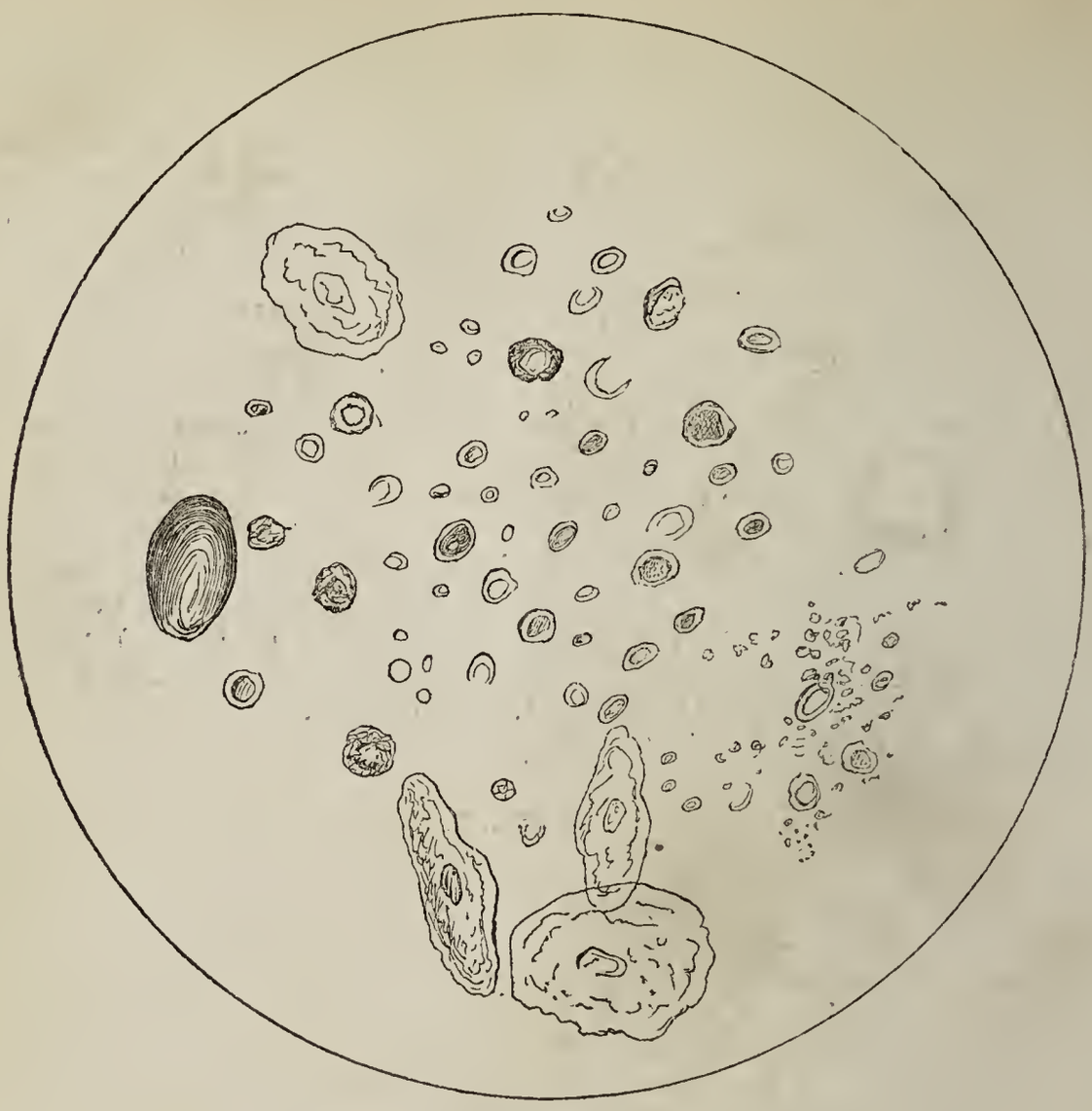


FIG. 3.

Fig. 4.

The observations contained in Table II., collected by Mr. Swayne, on cases in the cholera hospital, with the exception of Nos. 1 and 2 (the cases from the comparison of the drawings of which we were first led to notice these peculiar bodies), were made subsequently to mine, and date from August 2nd to the present time. He was prevented from continuing these first investigations with me, and as his observations were taken quite independently of my own, which they so fully confirm, I have thought it better to give them in a separate form. (See next page.)

Having been thus led to consider these bodies (which, from the characteristic of their appearance, I have termed annular bodies), in some manner essentially connected with cholera, I wished to ascertain whether it might be as cause and agent, or effect and product: that it could not be the latter seemed evident at once from the fact that they were unlike any of the known healthy or morbid elements of the body, or secretions, and as they were found in the vomited matters apparently in an early stage of development, it seemed probable they were introduced from without, and would be met with in the atmosphere, &c. of places where cholera was rife. Accordingly, with the view to test the truth of this supposition, on July 19th, with the kind assistance of, and an apparatus suggested by, Dr. Bernard, I condensed about 3j. of fluid from the atmosphere of a room in a house from which five patients had been removed the day previous to the cholera hospital,* and found in it bodies of the same appearance as those represented in fig. 1. I soon afterwards repeated the experiment, with the aid of Mr. Ralph Bernard, in a cell in the bridewell, which had been unoccupied for some time, but adjoining cells the occupants of some of which had been seized with cholera, one of whom died the day before. Here, also, the same result was obtained, and from a specimen preserved, which has been carefully examined by many excellent microsco-

* No. 8 and 9 are two of these cases, and two of the others died.

TABLE No. I.

Sex.	Age.	Date of Seizure.	Date of Evacuation after Seizure.	Character of Evacuation.	Granules and Granular Cells.	Annular Bodies.	Muscular and Vegetable Tissue.	Animalculæ.	Crystals, Blood, Epithelium.	OBSERVATIONS.
1. F.	18	July 10	12 hours.	Rather thick.	Many.	Many.	Abundant.	None.	None.	Collapse extreme, no urine, died 13th July.
2. F.	6	July 9	12 hours.	As usual.	Single and in masses.	Few.	Abundant.	None.	None.	Recovered, collapse slight.
3. F.	6	July 10	6 hours.	As usual.	Ditto.	Few.	Abundant.	None.	None.	Died 13th.
4. M.	70	July 11	7 hours.	Passed in bed under him, but the flocculi examined contained.	Many.	Not seen.	Abundant.	Sarcina ventriculi.	None.	Evacuations always passed under him.
			24 ,,	Ditto.	Many.	Many.	Abundant.	Ditto.	None.	Hyaline, jelly-like matter, more stringy; contained large cells like ova.
			36 ,,	Ditto.	Many.	Many.	Abundant.	Ditto.	None.	Last motion darker, but reaction never fairly came on: died 15th.
5. M.	40	July 12	28 hours.	Fluid, almost without flocculi.	Many.	Few, very small.	None.	Vibriones, very many.	Few large phosphates.	Convalescent 14th.
6. M.	30	July 17	8 hours.	Very fluid.	Many.	Many.	None.	None.	Crystals.	Very severe and rapid case; died same day.
7. F.	35	July 14	5 days.	Semi-opaque, without sediment.	Many.	None.	None.	None.	Crystals in abundance.	No reaction; query was it urine? lingered a long time, then died.
8. M.	40	July 15	4 days.	Yellow ever since seized, fluid, with flocculi.	Many.	Many dyed yellow.	None.	None.	Phosphates.	21st, severely salivated; recovered.
9. F.	4	July 17	2 hours.	Very transparent fluid.	Many.	Many very clear.	Vegetable.	None.	Crystals.	Died 11 A.M. 17th.

10. F.	30	July 17	24 hours.	Passed under her in bed.	Many.	Few.	None.	None.	None.	Collapse moderate from the first, but without any good reaction.
			48 ,,	1st in pan.	Ditto.	Many large.	None.	None.	None.	
			72 ,,	Darker and thicker.	Ditto.	Fewer.	None.	None.	None.	Passed a little water.
			96 ,,	Dark green, very viscid.	Ditto.	Fewer.	None.	None.	Crystals.	No cramp; no vomiting: had arrowroot and broth; recovered.
11. M.	40	July 20	8 hours.	Yellow fluid, with flocculi.	Many.	Few.	None.	Many, and vibriones.	None.	Died same day; evacuations yellow from the first: this man came from London the night before.
12. M.	—	July 19	12 hours.	Alkaline, very transparent, with semi-transparent flocculi.	Many in hyaline matter.	Few.	Abundant.	None.	Epithelial scale.	Acid. Acet. caused most of this matter to disappear, but did not alter the annular bodies; died same day.
13. F.	45	July 20	20 hours.	As usual.	Many.	Few, small.	None.	None.	None.	Collapse not deep; passed urine all the time; recovered, after 2 weeks in Convalescent Ward.
14. M.	35	July 21	2 hours.	Without flocculi.	Few.	Few.	None.	None.	None.	Collapse moderate, now subsiding; passed urine; recovered.
15. M.	—	July 23	9 hours.	Very clear, fluid, with small hyaline flocculi.	Many.	Few, small.	None.	None.	None.	Vomiting and decided collapse; passed very few evacuations; that 22 hours after seizure was the last.
		,, 24	22 ,,	Ditto.	Many.	Few, small.	None.	None.	Few Crystals.	Died 7 A.M.
16. F.	25	July 23	24 hours.	Very clear, fluid, with flocculi.	Many.	None.	None.	None.	None.	Decided collapse; pulse and voice-less; about 4 oz. urine drawn by catheter.
			30 ,,	More viscid.	Many.	Many, small.	None.	None.	Crystals.	Warmer; only evacuation since morning.
			72 ,,	Flocks like jelly.	Many.	None.	Vegetable.	None.	Stellate, and dark lithic acid.	No urine since above; heat fair; pulse fair; passed about 1½ pint of very thick whitish urine.

TABLE No. I.—*continued.*

Sex.	Age.	Date of Seizure.	Date of Evacuation.	Character of Evacuations.	Granules and Granular Cells.	Annular Bodies.	Muscular and Vegetable Tissue.	Animalculæ.	Crystals, Blood, Epithelium.	OBSERVATIONS.
16. F.	25	,, 30	7 days.	Dark green thick fluid.	Many.	None.	None.	None.	Phosphates, chlorate of potash, and irregular.	Only evacuation during last 72 hours; recovered.
17. F.	24	July 26	12 hours.	Clear, with white flocculi.	Many.	Only 2 or 3 observed.	Very little.	None.	None.	Collapse extreme; not much purging, but incessant vomiting; died 28th.
18. F.	26	July 29	4 hours.	Very fluid, scarcely any flocculi.	Many.	Many.	Little.	None.	None.	
			9 ,,	Same.	Many.	Many large.	None.	None.	Stellate.	
			21 ,,	Thick and viscid.						Died.
19. F.	30	July 24	2 hours.	Very liquid.	Many.	Many.	Vegetable.	None.	Phosphates.	Diarrhœa yesterday, with rice-water evacuations; no decided collapse; no vomiting; no cramps; heat and pulse fair; voice ordinary, but eyes rather sunk.
			12 ,,	Ditto.	Many.	Many small.	Vegetable.	None.	Phosphates.	More collapsed.
			26 ,,	Ditto.	Many.	Very many.	Vegetable.	None.	Phosphates.	Colder and more collapsed; pulse and voice not very much altered; says she passes urine with evacuations.
			48 ,,	Yellow, viscid like, thick gum, without flocculi.	Many.	Few.	Vegetable.	None.	Phosphates, and others in stellate and irregular masses.	Same.
20. M.	20	July 24	6 days.	Very flocculent.	Many.	None.	Vegetable.	None.	Ditto.	Recovered.

CASE VII. I was unable to obtain any other specimen from this patient, and, as the observation states, there was strong reason for supposing it to be in great part, if not entirely, urine.——CASE XVI. It will be remarked that in the first specimen examined no annular bodies were found; that they were plenty and small in the next, six hours afterwards, and none again in the next, forty-two hours later—the intermediate not having been obtained; that in the next passed after recovery, four days later, there were also none to be met with.

TABLE No. II.—By J. G. SWAYNE, Esq.

No. and Sex.	Age.	Date of admission.	Date of Evacuation.	Character of evacuation.	Mucus.	Annular bodies.	Muscular and Vegetable Fibre.	Epithelium.	Blood.	Crystals.	Observations.
1. F.	18	July 10	24 hours.	Tolerably clear. Rice water, with thick white flocculent deposit.	Little.	Tolerably abundant; medium size.	Both.	None.	None.	None.	Died, July 13.
2. F.	6	July 9	12 hours.	Ditto.	Much.	Few and small.	Both.	None.	None.	None.	Recovered.
3. M.	25	July 31	Aug. 3	Thin, serous, and reddish.	Little.	Few; of medium size, more or less broken.	Vegetable.	None.	Abundant and altered in shape.	Phosphates. Lithate of ammonia, with lithic acid, and dum-bell crystals of oxalate of lime.	Recovered, although a rather severe case.
4. F.	17	July 27	Aug. 2	Semi-fluid, and tinged deep yellow, with bile; very large whitish flocculi.	None.	Many; mostly very large; containing small cells; their walls thick and distinctly cellular in structure.	Vegetable.	None.	None.	Lithate of ammonia; black rounded granules.	Recovered.
5. M.	26	Aug. 1	Aug. 2	Thin yellowish matter vomited.	Little.	Few and small, with distinct walls.	Starch and oil-globules.	Much.	None.	None.	Not a very bad case. Recovered.
6. M.	—	Aug. 3	Aug. 3	Dark red, bloody; chiefly grumous blood.	Little.	A few large and small.	None.	None.	Abundant.	Phosphates.	Recovered. This man lost the tip of his nose from gangrene, which came on during collapse.
7. M.	19	Aug. 3	Aug. 5	Thin, with flocculi.	Little.	Few.	Both.	None.	None.	Large Phosphatic crystals.	Recovered.

TABLE No. II.—*continued.*

No. and Sex.	Age.	Date of admission.	Date of Evacuation.	Character of Evacuation.	Mucus.	Annular Bodies.	Muscular and Vegetable Fibre.	Epithelium.	Blood.	Crystals.	OBSERVATIONS.
8. M.	42	Aug. 4	Aug. 5	Thin, with dirty white flocculent precipitate.	Little.	Very many; some large; the greater part small, forming almost the entire precipitate, with some granular amorphous matter.	Both; large cells, with transparent walls containing raphides.	None.	None.	None.	Recovered.
			36 hours.	Very thin and watery.	Plentiful.	Very few; medium.	Starch granules.	None.	None.	None.	
			Aug. 7	Thin, with flocculent deposit, and much coloured with bile.	Little, with hyaline basis	Not very abundant.	Both.	A few scales.	None.	Phosphates.	
			Aug. 7	Thin, serous; yellow matter vomited.	Little.	Very few, and not distinct.	None.	Plenty, chiefly tesselate.	None.	None.	
9. M.	13	Aug. 5	24 hours.	Very thin, and serous.	Little.	Very few, and not very distinct.	Vegetable containing raphides.	None.	None.	None; a plentiful deposit of black amorphous matter.	Died on the 11th.
			2 days.	Thick, and greyish black.	Much, with hyaline basis	Abundant; some very large and containing others.	Ditto and starch.	None.	None.	None; black amorphous matter.	
10. M.	14	Aug. 7	Aug. 7	Thin, and slimy.	Ditto.	None.	None.	Squamous.	None.	None.	Recovered.
				Thin serous matter vomited.	Very little.	Very few, and not distinct.	None.	Ditto, much.	None.	None.	
11. F.	18	Aug 9.	Aug. 9	Thin and serous, with hardly any deposit.	Very abundant.	None.	None.	None.	None.	A great number of small polyhedral crystals, common salt (?) some black amorphous grains.	Unusually severe. Died in a few hours.

12. M.	43	Aug. 11	12 hours.	Thin and serous, with slimy mucous deposit.	Dit	A few, not very large.	None.	1 or 2 scales.	None.	Ditto.	A very severe case. Collapse extreme. Died on the 12th.
13. M.	46	Aug. 11	12 hours.	Thin and serous.	e	Several of tolerable large size and deep brown colour, some containing very distinct cells of small size; a great number of the latter floating.	None.	Tolerable plentiful squa mous.	None.	Ditto.	Recovered.
14. M.	35	Aug. 11	Aug. 11	Thin and mucous.	Abundant with granules.	Very few, or none. There were a few large granular cells, but these were by no means distinct.	A few vegetable cells.	Notmuch, squamous.	None.	None.	Recovered.
15. M.	30	Aug. 14	Aug. 14	Thin and clear, depositing transparent shreds.	Very many, with hyaline basis.	Hardly any, and these doubtful.	Vegetable cells and fibre.	None.	None.	Phosphates and long prisms.	Recovered.
16. M.	28	Aug. 14	Aug. 14	Thin and gelatinous.	Plentiful, with granular matter.	But few and much broken; some small cells of a deep brown colour, and aggregated together, in form resembling annular bodies.	None.	None.	None.	Large Crystals of phosphates.	Severe case, and died on the 16th.
17. F.	9	Aug. 14	Aug. 14	Thick and flaky.	Not much; hyaline matter, sprinkled with very fine granules and black amorphous matter.	A few large, more or less broken.	Starch, vegetable cells, and fibre.	A few scales.	None; oil-globules.	None.	Died on the 16th.

TABLE No. II.—*continued.*

No. and Sex.	Sex.	Date of admission.	Date of Evacuation.	Character of evacuation.	Mucus.	Annular Bodies.	Muscular and Vegetable Fibre.	Epithelium.	Blood.	Crystals.	OBSERVATIONS.
18. M.	10	Aug. 15	Aug. 15	Thin matter vomited.	Little.	A few large cells, their walls very distinctly cellular; a vast number of small cells; some oval; mostly aggregated like torulæ.	A great many vibriones, also paramæcia, exhibiting a very active movement.	The squamous form plentiful.	None.	None; black amorphous grains.	Died in secondary fever on August 20.
19. M.	47	Aug. 20	Aug. 20	Tinged with bile, with thick flocculent deposit.	Not much hyaline basis	Very abundant and distinct; some very large. The flocculi chiefly composed of them.	Vegetable cells and fibre.	None.	None.	A few prisms.	A bad case. Died same day.
20. F.	28	Aug. 18	Aug. 23	Thin, greenish, and serous.	None; granular matter	Tolerably abundant; both large and small; also large simple cells without nuclei.	None.	A few scales.	None.	A few, apparently lithic acid.	One of the worst cases. Died in a few hours.
21. F.	35	Sept. 8	Sept. 8	Thin and clear, with yellow flocculent deposit.	Abundant, with hyaline basis.	Very abundant; of all sizes.	Vegetable cells.	None.	None.	None.	A very severe case; never rallied out of the cold stage. Died Sept. 11.
			,, 9	Rather thin, with thick yellow deposit.	Ditto.	Not many, and those small.	None.	None.	None.	None.	
			,, 10	Thick, dark, yellow, semi-fluid, and pultaceous.	Little and many granules.	Several, very large and irregular, and of a deep yellow colour.	Vegetable cells.	A few scales.	None.	None.	

pists, fig. 1 is accurately copied. The same experiment was then tried in situations free from cholera, but with a negative result: the fluid here obtained was destitute of these bodies, and contained only small portions of hyaline structureless matter, also observed in the first. I have since repeated these experiments, aided by Dr. William Budd, several times with the same positive and negative results, and therefore feel justified in stating that the same will follow similar investigations made elsewhere, if the necessary care be taken, and a glass of sufficiently high power (I used a Ross's 1-12th) be employed. The only question remaining is, as to the identity of the annular bodies thus shown to exist in the atmosphere of cholera districts, and in the vomited matters and evacuations of cholera patients. Most of those to whom I have shown the specimens entertain no doubt on the subject, and all seem to concur in their identity of form.

This is all that is possible in respect to matters of such extreme minuteness, and we must, I imagine, be satisfied here, as in similar cases, to form our opinion on circumstantial and corroborating evidence. And when we consider that this form is in itself of too definite a character to be one of mere chance; that the sizes are progressive, accurate measurement showing those in atmosphere fig. 1 to average from the 10,000th to the 3,000th of an inch in diameter; those in vomit fig. 2, from the 8,000th to the 5,000th; those in dejections, fig. 3, from the 6,000th to the 500th; whilst they are met with in the same specimen of dejection in all the intermediate stages of palpably the same object;—the inference is, it appears to me, conclusive, that the annular bodies of atmosphere, vomit and dejection, are but the three stages of development of one and the same body, of whatever nature it may be. A reference to fig. 3 will show them in almost all these stages, some being nearly as small as those in the atmosphere, others intermediate, evincing a commencement of compound character, whilst the largest again frequently seem parent cells containing young cells in their walls and interior, or broken up into a number of young cells more or less separated from each other. I have seen some much larger than the largest here represented, occasionally entire, but more frequently broken with a sharp irregular fracture, the morsels presenting in some measure the same characteristic annulus as the parent cell did. Their form is too peculiar to need further comment, the light ring round them giving a peculiar cupped appearance, which is unmistakeable, especially to one who has seen the drawings.

Having thus given a detailed account of the mode in which I was led to the discovery of these bodies in the atmosphere and evacuations, it might be expected that I should enter more fully into a description of their nature; but, as I have stated in the commencement of this report, my object is simply to lay before the profession the facts as I have found them, that they may receive the attention and examination which I believe they deserve, and be tested and proved by a repetition of my own experiments. To this end I shall be happy to give any information to those desirous of prosecuting the research, fully satisfied that the more they are examined the more fully will they be established, and the more important will be the results that may flow from their knowledge, and with the earnest hope that we may through them obtain, if no more, at least one common ascertained fact on which the profession may be agreed, and by which our inquiries into the cause and effect of this and other allied diseases may be directed in the right path.

On this account, also, I have studiously avoided giving any opinion at all on the facts brought forward, lest I might by so doing distract attention from them, and because I would wish them to stand alone as a fixed and demonstrated truth, from which others, as well as myself, may draw their inferences.

I have necessarily formed opinions, and been led by circumstances which occur only in the actual practical investigation of such subjects, to conclusions which may or may not be approved by others, and I should therefore wish these to be considered as totally distinct from the facts stated in this report, and shall probably make them the subject of a paper in a future number.

P.S.—Since the above was placed in

the printers' hands. I have been kindly furnished with the following letter from Mr. Quekett, for publication. The opinion of so high an authority will bear, I am sure, great weight.

Clifton, Sept. 21st, 1849.

Royal College of Surgeons,
Sept. 20th, 1849.

My Dear Sir,—I have carefully examined the specimens procured by you from the air of cholera districts, choleraic vomit and evacuation, submitted for my opinion on Friday, September 14th; as also a specimen obtained from the atmosphere this day, and have no hesitation in stating that in my judgment they are successive stages of development of the same body, which I believe to be of a fungoid nature.

Yours very truly,
John Quekett.

Dr. F. Brittan.

A FEW FACTS CONNECTED WITH

PESTILENTIAL CHOLERA,

AND ITS TREATMENT.

By James Copland, M.D. F.R.S. &c.

1. In the leading article of the last number of the Medical Gazette you remark as follows:—"and we are inclined to think that the suggestion which he (Dr. Laycock) has thrown out regarding the use of sulphate of quinine as a prophylactic—a remedy already proposed by Dr. Little—is well worthy of a trial. Nurses and attendants on the sick, as well as the poor inhabitants of infected districts, who are undoubtedly more liable to attacks of the disease than others, might be preserved by a timely resort to the use of this medicine."—p. 495.

Now I am quite of your opinion; for in the small work on "Pestilential Cholera," published by me in 1832, I have recommended this medicine; and again, in the article of my Dictionary in which "Protection from Pestilences" is treated of (see Pestilences, Protection from, Part XI. p. 232-247), this subject is fully discussed in the section on "*Protection by such means as may enable the constitution to resist infection*," (§ 78—87). In that section, and in the notes subjoined, formulæ and facts are stated in illustration of the employment of quinine, camphor, and similar medicines, as preservatives from pestilences, and more especially of quinine, camphor, and capsicum. More than twelve months ago I furnished most of my friends with prescriptions for pills, consisting of these latter, with directions to take a dose night and morning if they should be exposed to the exciting or predisposing causes of choleraic pestilence; and my friend Dr. M'William provided the numerous body of men under his professional supervision with similar pills to protect them from the malady when any of them were obliged to be left on board of ships in which it prevailed; and I believe that the means have been most efficacious.

2. I know that cases of choleric pestilence occurred in the immediate vicinity of the river a considerable time before the first case noticed by some writers connected with the Board of Health. The first case, which was undoubtedly a case of choleric pestilence, occurred on the 11th of July, 1848, in a man who had been employed on board of a steam-vessel from St. Petersburgh, where the pestilence was then prevailing. This man had most profuse rice-coloured discharges upwards and downwards, a pulse hardly to be felt, collapsed countenance, leaden-coloured extremities, choleric voice, &c. He nevertheless recovered. This case was attended by a friend of the writer, and was reported to the "Board of Health."

3. The Board of Health which was formed in 1831, consisted of three very experienced physicians,—of two who had investigated very closely the nature of the choleric pestilence,—the third had had the greatest experience of any man living in other pestilences. This Board wisely endeavoured to prevent the spread of choleric pestilence, by removing those of the poor who were attacked to cholera hospitals, in order that they might not be the sources of infection in their several residences and localities, and by other means calculated to counteract infectious emana- from the sick. The members of this Board—experienced and practical physicians—acted on the conviction of the infectious and specific nature of choleric pestilence, and did all they could to limit its spread, by acting on this conviction. The results were—1st.

that the spread of the pestilence was then comparatively limited; 2d. that many populous towns and districts escaped altogether; and 3d. that the disease entirely disappeared for nearly seventeen years. The present so-called, or popularly called, Board of Health, but legally denominated Board of Works (see the Earl of Carlisle's letter), take opposite views of the nature of the disease, act accordingly, and allow a malady, which judicious measures might have arrested altogether at an early stage of its diffusion, to become destructive to an extent far beyond the history of modern pestilences; and, morever, recklessly run the risk of domiciliating the disease in this country, as it has been in India since 1817.

4. A very large proportion of the cases of diarrhœa, which are considered as the initiatory stage of choleric pestilence, are merely the usual cases of autumnal diarrhœa, especially those which are readily arrested by the means usually employed to arrest diarrhœa. The diarrhœa which often ushers in this pestilence is not so readily arrested as these are; and, even when so arrested, is often followed by more or less febrile disturbance, by biliary disorder, by scanty secretion of urine, or by cerebral disorder; and this is more remarkably the case, and the usual vital depression is the more manifest, when sickness or vomiting precedes, accompanies, or follows the alvine discharges, which, as well as the matters vomited, have always a peculiarly offensive, sickening, and depressing influence upon the healthy who inhale the effluvium from them. The vomitings, also, of choleric pestilence are not commonly controlled by creasote. In the less severe cases, pills, consisting of large doses of calomel, with a little capsicum, opium, and creasote, have often arrested the vomiting, and at an early stage they have frequently suceeded in acccomplishing this end, but if the disease has gone on to the stage of collapse they have generally failed. Yet, even in these successful cases, the benefit is to be ascribed rather to the other ingredients of these pills than to the creasote.

5. Amongst the means which I have employed during the present outbreak of choleric pestilence, I have found, during the stage of collapse, the use of the chlorate of potash, with bicarbonate of soda and hydrochloric ether, in camphor water—or the aqua chlorinii, with the same æther, taken in the same vehicle—to be the most successful; but these should be given in small and frequent doses, or largely diluted with the camphor water, or be taken in the patient's drink. They ought, however, to be strenuously persisted in, notwithstanding the frequency of the vomiting. If reaction follow, then they should be relinquished, and calomel and camphor ought to be given to remove the torpor of the liver, and to promote the portal circulation. If the kidneys are inactive in this stage, embrocations, with turpentine, may be placed over the loins, and the diuretic salts be given internally; or an enema, containing a moderate quantity of spirits of turpentine, be administered. If the vomiting continues during the stage of reaction, the patient rarely recovers, and never unless urine be secreted.

I must content myself at present with the above hasty remarks, and must only add, that whatever twattle may appear on the subject of "non-contagion," of "non-infection," of "contingent contagion," of "contingent infection," pestilential cholera will some day be acknowledged to be, what I have long ago, and again more recently, endeavoured to show it to be, according to the most irrefragable evidence, a disease *sui generis*, which is propagated by a specific infectious emanation proceeding from the sick, as observed in respect of true typhus and scarlet fevers, whenever and wherever the predisposing and concurring causes are in operation, as fully shown in the articles "*Disease*," "*Infection*," and "*Pestilences*," in my work on Practical Medicine.

Old Burtington Street,
22d Sept. 1849.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination, and received certificates to practise, on Thursday, 20th Sept. 1849:—Thomas Costerton, Great Yarmouth, Norfolk—Samuel Montgomery Charles Alfred Anderson Smith—Robert Clarke, Tamworth.

A CASE OF

STRANGULATED INGUINAL HERNIA,

OPERATION—FOLLOWED BY ARTIFICIAL ANUS AND CURE.

By Matthew Jennette, Esq. M.R.C.S. &c.

Honorary Surgeon to the Birkenhead Infirmary, and Surgeon to the Police Force.

The following case, possessing (as I think) some points of practical importance, it may not be unwise to lay shortly before the profession; it will serve to show, for instance, how little reliance may be placed on the history we sometimes have of a case of hernia from the person so afflicted, as a means of anticipating the absence or presence of adhesions of the sac or its contents, and it may also be the means of cheering on the surgeon, and of giving him encouragement to hope, should an artificial anus be formed as a consequence of the sloughing of intestine, that it may rapidly with proper care close, and the patient be radically cured both of it and his hernia.

On Sunday, the 18th March of this year, in the evening, I was sent for to visit Mr. Redshaw, of Ivy Street, in this town, aged 63 years, a gentleman previously unknown to me: he complained of being unable to get back an old rupture which he had had for the last 20 years, and for which for that period he had constantly worn a truss, being always *he assured me* able to return it when it descended, with facility, until now; he told me that for the last 24 hours he could not get it back, but having sent for me the previous evening, and having ascertained I was some distance from home on a professional engagement, he waited until my return. On examination, I found an inguinal hernia, about as large as the longitudinal half of a goose egg, corresponding in its position to the inguinal canal. The patient being lusty, with an abundance of adipose tissue, it was not very easy to define what were the contents of the tumor, but I considered them to be both intestine and omentum. I tried reduction for a considerable time, occasionally with some apparent effect, but as on removing the fingers the tumor was as large as before, it was evident that the pressure merely emptied the intestine of its gases, without producing the end aimed at. It appeared now evident that an operation would be necessary, but the symptoms not yet being very urgent, nor the patient quite made up in his mind to submit to it, I recommended the application of ice to the tumor, promising to call the next morning, which I did, and, as I expected, found the strangulation still existing, and that it would be no longer safe to delay operating. My friend Mr. Dixon concurring with me in opinion, assisted by him and Mr. Macdougal, House-Surgeon to our infirmary, the patient consenting, I proceeded to operate. After exposing the sac, *which adhered closely to the surrounding fasciæ*, it was carefully opened, when its contents were found to be principally omentum, *firmly attached* by old adhesions in all directions, and forming at the abdominal ring a tube through which a knuckle of intestine had passed, both being firmly constricted by the ring, on dividing which the intestine immediately went up. The question now arose, what was to be done with the large mass of vascular adhering and twisted omentum? The adhesions were with some difficulty broken up, the mass was unrolled and attempted to be returned: it was found impossible to do so. On considering whether it would be advisable to cut it off and apply ligatures to the numerous vessels that would necessarily be divided, I resolved to leave it as it was, and close the wound over it in the usual way with sutures, adhesive straps, &c., which was done. The patient was given an opiate draught, and settled in an easy posture in bed. For the next two or three days symptoms of peritonitis were present, but by suitable means,—calomel and opium, warm poultices, &c.—were subdued, when, as there was no appearance of union in the wound, the sutures, &c. were removed, and it was found that the mass of omentum was in a sloughing state: warm water dressing was now applied, covered with oiled silk to the wound, and at each dressing as much of the slough as could with safety be removed was snipped away with the scissors. Things remained so until the 9th day after the operation, when, on dressing, the discharge had a slight tinge of yellow, with a faint fæcal

odour; but it was not until the 31st March, the 12th day of the after treatment, that the entire mass of slough came out, followed by a copious discharge of fæces through an opening into which the finger could be passed. This to me was very discouraging, and evidently had a very bad effect on the patient's mind, as he feared he would become a nuisance to himself and friends for life: however, I cheered him as well as I could, and assured him it would not necessarily be permanent. I now removed all dressings, and enjoined strict cleanliness. Ordered mild enemata and laxatives, which I had the pleasure to find had *some* action per vias naturales. Under this simple treatment the artificial anus gradually closed, and after six days there was no longer any fæcal discharge: thenceforward the wound under simple dressing filled up from the bottom, and at the end of four weeks from my first visit was perfectly cicatrized, and the patient radically cured of a disease which for so many years had been a constant source of dread and uneasiness.

Birkenhead, Sept. 10, 1849.

INFUSORIA IN THE DEJECTIONS OF CHOLERA. BY M. POUCHET.

Leuwenhoek observed animalcules of the species Vibrio in the evacuations of dysenteric patients. M. Donné and others have made similar observations with regard to cholera. M. Pouchet confirms these observations by the discovery of an extremely minute animalcule—the *Vibrio rugula* of Müller and De Schrank. Its movements are sudden and rapid. A practised eye can readily detect the motions of this animal among a crowd of other granules or corpuscles. They have only been observed by M. Pouchet in characteristic rice-water evacuations recently voided: they have not been seen in the vomited matters.—*Comptes Rendus*, Avril 1849. χ

*** The information here given is incomplete: further observations are required before the existence of these animalcules as essential constituents of the evacuations of cholera can be admitted.

MEDICAL GAZETTE.

FRIDAY, SEPTEMBER 28, 1849.

Among the differences of opinion which exist in the profession regarding the terrible scourge that is now spreading desolation through our country, not the least remarkable is, that, according to some it is a *new* disease, while according to others it was well known to, and accurately described by, medical writers who lived two hundred years ago. It is surely not a matter of indifference to endeavour to settle this point: for the more complete our knowledge of the origin of the epidemic, the more efficient are likely to be our means of prevention and treatment.

Dr. Watson explicitly tells us that the Asiatic Cholera, as it is called, "was not known in this country till the autumn of 1831;"* and Dr. Copland, no mean authority in medical literature, says Pestilential Cholera *first* made its appearance in Jessore, in 1817.† On the other hand, Dr. Chambers, in three interesting lectures, containing an admirable description of the disease, published in our last volume,‡ maintains that the malignant cholera was well known to practical observers in Europe many generations before the vulgar epoch of its birth, 1817; and Dr. Watson thinks that it may have existed in India before this period. The writer of an excellent history of the disease lately published in a contemporary journal, and transferred to our pages,§ takes an intermediate position. He assigns its origin to the year 1781, when it first broke out in India in a body of troops stationed

* Lectures on the Practice of Physic, ii., page 463.

† A Dictionary of Practical Medicine, Pestilence Choleric. Part x. p. 99.

‡ Vol. xliii. pp. 244, 288, and 325.

§ See page 507 of our last number, and page 556 of this number.

at Ganjam, in the Madras Presidency. The disease described by the older English writers, which is said to have prevailed in England, and to have been epidemic in 1675, he considers to have been nothing more than an aggravated form of autumnal cholera, differing from the present epidemic in the striking fact that the evacuations were always coloured by bile. As a general rule, the jungles of Jessore are regarded as the birth-place of malignant cholera, and the date of its first appearance is assigned by the profession to the year 1817. This opinion has received great support, from the fact that from the period mentioned the disease appeared to advance slowly but gradually through Asia to Europe, so that fourteen years elapsed before it broke out in England. Dr. Watson puts no faith in the quotations from Morton and other early writers on the diseases of this country, as evidence of the cholera having occurred in England prior to this date. He contends that the malady, if it had existed, was too striking to be overlooked or ever forgotten by any one who had once seen it; and the differences which he assigns to the malignant cholera and the old English disease supposed to resemble it, are—"that the matters ejected from the bowels contained *no bile* (and this alone is a good reason against calling the disease *cholera*): also in the early supervention of the symptoms of collapse; and in the great mortality of the disorder."* We do not find that Dr. Copland assigns any satisfactory reasons for his opinion that the disease is entirely new, and that it was unknown to European medical writers before the present century. On examining his bibliographical summary and references, at the conclusion of the article on Cholera, we find that the whole of the works which he has consulted refer to the epidemic of 1832, and that they were all written at or about the time at which the cholera was extending from Asia to Europe. There is therefore nothing in his essay which can enable us to solve the debated question, whether the malignant cholera be really an old or new disease in England, and whether we can ascribe to it a purely Indian or a universal origin.

One difficulty which we have to contend with in this inquiry, arises from the vague and loose description of diseases given by most of the older writers. Thus cholera, accompanied by bilious discharges, has been confounded by most of these authors with that disease which is accompanied by serous or aqueous discharges, and both have been confounded with dysentery.

We pass over the statements of the old Greek and Roman medical writers, as our immediate object refers rather to the observation of the disease in England or on the continent within the last two centuries, than to its occurrence at such a remote period. Nevertheless, the quotation from Celsus, given by Dr. Chambers in his first lecture, appears, notwithstanding the vagueness of the language used, to point to a form of cholera accompanied by serous evacuations, and attended with some other symptoms supposed to be peculiar to the Asiatic disease. Suppression of urine, however, is not mentioned; and it may be fairly contended that the description given by Celsus is equally applicable to autumnal cholera in a very severe form. Sydenham does not appear to us to advance the case for the antiquity of this as an English disease. "It is characterised," he says, "by immoderate vomiting, and discharge of vitiated humours from the bowels with great difficulty and suffering; by violent pain and distension of

* Lectures, vol. ii. page 461.

the abdomen and intestines, heart-burn, thirst, heat, and anxiety; a small and irregular pulse, colliquative sweats, contractions of the limbs, faintings, coldness of the extremities, and other similar symptoms which greatly terrify the attendants, and destroy the patients in twenty-four hours."* When we reflect that Sydenham assigns a particular period of the year (August) for the occurrence of this disease, and that the term "vitiated humours" may apply to bilious discharges,—that the other symptoms are precisely such as are witnessed in severe autumnal cholera,—that no reference is made to the absence of bile in the evacuations, to the suppression of urine, the icy coldness of the whole surface, and lividity of face and extremities,—to the pulselessness and consecutive fever, we must admit that it would be only by a very forced construction of language, that such a description could be supposed to apply to the disease now among us. Its real fatality is not even hinted at: we do not gather from Sydenham's description that one-half or two-thirds of all the patients perished; nor is its rapidly fatal course even indicated in the mere allegation that patients are destroyed in twenty-four hours. A large number of cases it is well known prove fatal in six hours, and many within a much shorter period. The statements of Sydenham, therefore, do not go further than to prove that in his time autumnal cholera was sometimes seen in a violent and unmanageable form.†

We cannot go the length to which Dr. Chambers has gone, and admit that his quotations from Dr. Morton prove that this physician had witnessed and described a disease identical with the modern Malignant Cholera. We allow that it possessed some features of the disease, but the main characters were wanting; and it cannot be denied that Morton's description applies equally to the severe form of autumnal cholera described by Sydenham. The description given by Tallmann, a physician who practised at Püllna in the latter part of the eighteenth century, also quoted by Dr. Chambers, is much more to the purpose.* Tallmann refers to the suppression of urine; but although he speaks of severe vomiting and purging, he does not describe the nature of the evacuations. This may have been an accidental omission; and we are more inclined to regard it in that light, since we have met with a work which tends to confirm Tallmann's account of the disease, and to lead to the opinion that the cholera, as we now know it in its malignant form, had really existed in Europe in the eighteenth century, if not earlier.† This work, which was published at Breslau in 1753, is divided into two parts—the first part giving an account of a very severe attack of cholera suffered by the au-

* Chambers, Lecture i.

† Dr. M. Wilson, in a communication to a contemporary journal, gives the following version of Sydenham's views, as a proof that the disease is by no means new in the annals of medicine:—"That the disease comes as certainly at the latter end of summer and at the approach of autumn as swallows at the beginning of spring, and as cuckoos at the heat of the following season. That disease, which is occasioned by a surfeit, comes at any time, the symptoms are, indeed, alike, and the cure the same, yet 'tis of another kind. The disease is easily known; for there are violent vomitings, and an evacuation of ill humours, with great difficulty and trouble by stool; there is a violent pain and inflammation of the belly and guts; an heartburning thirst, a quick pulse, with heat and anxiety, and often a small and unequal pulse, with great nauseousness, and sometimes a colliquative sweat; contractions of the arms and legs, fainting, a coldness of the extreme parts, and such-like symptoms, which frighten the bystanders, and kill the patient in twenty-four hours." It appears to us that a man must be a strong advocate of the "nihil novi sub cælo," who can find in this account a fair description of the malignant cholera as it is now raging in the metropolis.

* See our last volume, page 248.

† The work to which we refer is entitled—Historia Choleræ Atrocissimæ qvam svstinvit ipse, persanavit aegerrime, atqve in vsvs pvblicos adjectis animadversionibvs theoretico-practicis qvam accvratissime descripsit. D. Balthasar Lvdovicvs Tralles, Medicvs Vratislaviensis. Vratislaviae: 1753. pp. 391. We are indebted for a copy of this curious old work to Dr. Miller, of Chelmsford.

thor; and the second containing medical comments upon the nature, symptoms, diagnosis, and treatment of the disease.

The attack of malignant cholera (*cholera atrocissima*) suffered by Dr. Tralles lasted for a period of fourteen days, and nearly two hundred pages of his book are occupied with a minute description of the daily progress of the disease, and the symptoms, so far as they could be observed by the sufferer himself. The work shows that the writer was well informed in his profession, and that he had thoroughly studied the views of ancient writers, as well as of his contemporaries, on the nature of the disease which so nearly cost him his life. We have, indeed, in this history, published about a century ago, an account of all that had been written on cholera in its various forms up to that date, from the pen of an observing physician, who, from having himself been affected with the disease, was not likely to have overlooked any medical fact connected with its origin and progress. We here give a few extracts from the first part of the work, in the quaint original, in order that our readers may judge for themselves how far the inferences which we are disposed to draw are justified by the statements of this old writer.

"Die altera, quae secunda Augusti erat, resurgens incredibile sentiebam virium decrementum, ita, vt licet loca illa amoenissima, quae alioquin obambulando summa voluptate visitaram, oculos contuentis omnino pascerent, atque allicerent, tamen fesso et artubus fracto, e conclaui egredi haud liceret. Igitur remanere coactus infuso (Thée) cumulatas forte in ventriculo et intestinis sordes eluere, diarrhoeamque quae ingruebat valde torminosam sibi ad tempus permittere, atque interim a cibo omni abstinere decernebam, eadem methodo qua plus simplici vice in similibus casibus per solam abstinentiam et quietem mihi consulere solitus fueram. Appropinquabat prandendi tempus, accedebam ad mensam renuens, sed ab humanissimo hospite inuitatus sociumque nanciscebar optimum Virum *Ivannem Philippum Herbst*, qui ante paucos menses Halae dissertationem *de noxia Sudoris prouocatione* pro Gradu Doctoris ventilauerat, cuique diuina Prouidentia prospectura meis miseriis iniunxerat, hic Petersdorffii sedem figeret, atque Praxin suam clinicam inchoaret. Recentem Academiae mihi peramatae statum didicissem ex eius fida relatione lubentissime, atque inter colloquia nostra simul morem gesturus amicis hospitis monitis degustassem aliquid de iusculo apposito, et elixa carne, sed nausea insuperabili in Vomituritiones inclinante fatigatus, atque horripilatione repetita vexatus, recedere a mensa atque museum illius petere iubebar, in quo lectulum stratum in meos vsus reliqueram. Vix eum summe languidus ingressus eram, perpetuis torminibus comitibus circa horam pomeridianam secundam, ecce horrore et frigore intensissimo corripiebar per horulae spatium, totum corpus ruditer concutiente, et vomituritiones molestissimas mouente. Sequebatur immanis aestus, pulsabant totius corporis arteriae ad vltimas earum ramificationes, incredibili dolore prehendebatur caput, tamque validos persentiebam carotidum ictus, vt in horreo vicino tribula frumenta excutientes agricolas adesse persuasum mihi haberem, ideae mihi illudentis falsitatem ab hospite beneuolo statim edoctus. Dum vero ita tristi hoc motuum exorbitantium apparatu non in externo saltem corporis cortice, sed in altioribus etiam eius penetralibus subdolus exardescebat ignis, multo maiori atrocia insurgebant intestinorum dolores, atque non distrahentem saltem, tendentem lancinantem, vt antea sed simul vrentem sensum inferebant. Vrgebat simul clamosa sitis, cui aeque ac aestui syrupis ex horaeis, taleolisque citri lenimen parauissem, nisi torminosi dolores contradixissent, aut saltem potu simplici frigidiusculo, qui linguae sicciori iucundissimus futurus erat, incessissem obuiam, si licuisset. Namque manifeste simulac ille suo in ventriculi parietes contactu agere a me obseruabatur, augebantur dolorosae constrictiones fibrarum intestinalium, licet ardorem paulo mitiorem mihi persentiscere viderer; coactus igitur bibebam largiter infusum (Thée) sed leuiter saltem saturatum, leniterque tepidum. Elapsis circiter tribus horis erumpebat sudor, isque satis largus, eaque propter paroxysmum finitum iri iudicabam, morbum aut ephemeram febrem, quam quandoque experiri soleo, aut intermittentem quandam habens, cras vel perendie nouo accessu redituram." (p. 34.) * * * *

"Haec omnia ita agebantur donec aduentaret vespera, ea vero in noctem inclinante praegressam deiectionem atrocissimis torminibus stipatam nouum insequebatur morbi phoenomenon, nixubus laboriosissimis proritatus omnium fere per duos dies assumtorum vomitus. Licet vero hic vires languidas mirum quantum, at ad ingruens animi deli-

quium prosterneret, spem tamen languidam simul erigebat, fore vt eiecta breuiore via minera morbosa illa pergere deorsum per longiorem tractum intestinorum iam cessaret, finisque omni morbo ita imponeretur. Satis scilicet frequentia diarrhoearum etiam contumacium obuersabantur animo exempla, quae vomitu vel natura vel arte excitato protinus conquieuerant.

" Sed o me miserum! fallax hoc erat solatium, non colophonem meis aerumnis imponebat vomitus, sed potius quasi classicum canens, aditum apertum pandebat formidoloso hosti, qui hactenus laruatus deleteriam suam indolem obtegerat, iam vero illam plenius conspiciendam mihi exhibebat. Nimirum quanquam ventriculus omnino vacuus laboriosissimo concussu redditus fuisset, nihilominus nil decedebat dolorum tormentis, quin breui post atrocius vrgentibus deiectionibus perpetuae iungebantur vomitiones, amarissimam, ardentissimam, rodentissimam, putridissimam, tenacissimam *bilem* conatibus primo inanibus, dein ex imis sursum impetuose agentibus exprimentes, nauseamque prorsus abominabilem cientes. Tristis haec rerum facies ita mecum sollicitos reddebat adstantes amicos, vt sponte aluo excretorum indolem non obstante teterrimo foetore indagarent, ac dein mihi *multa flaua fusca, bruna, nigrescentia, similia vomitu redditis, sed mucosa ac viscida valde*, atque picea tenacitate vasi excipienti agglutinata reiecta fuisse referrent. Tum vero demum liquido mihi constabat genuina morbi diagnosis, mihique non amplius obscurum esse poterat, *cholera* e demque satis atroci, me laborare, simultaneis deiectionibus et Vomitionibus dolore intensissimo intestinorum stipatis verum feralis huius morbi ingenium absoluentibus. Causa mali proxima a delictis diaeteticis haud deducenda, facile his ipsis deiectionibus et vomitionibus in aliorum meosque sensus incidebat, ardorque et morsus quem toti oesophago saltem praetereundo et supergrediendo inferebat haec rancida et corrupta bilis vomitu excussa, adurensque eius vaporosus nidor, qui per fauces adscendens narium adeo interiora sensili membrana pituitaria vestita feriebat, exedens eius corrosiuum, causticum, tantumque non venenosum ingenium clamabat. Neque mihi adeo difficile erat, inuenire rationes sufficientes quibus pessimae actiuitatis haec acrimonia suos in corpore meo natales debebat. Progressus eram vltra annos iuueniles, eaque aetate gaudebam, cui familiarem esse inter varios alios morbus Choleram notauit *Hippocrates.* Labebatur ea anni pars quae aestatem fugientem atque autumnum immi nentem complectitur, quam morbus hic observante *Sydenham* vnice eademque prorsus fide amare consueuit, quam primordia veris hirundines, aut insequentis tempestatis feruorem cuculus, ipseque mensis Augustus aderat, intra cuius terminos fere saltem ille grassari solet, eodem laudatissimo viro obseruante. Cucurreram praeterea per dies bene multos antea per plateas, aestiuis caloribus fatigatus; igitur turgor inde eminens sanguini erat inductus, rapidiorique motu ille per sua vasa fuerat prouolutus, insuper aestuantis perniciosissimum iter iuuarat actio musculorum voluntaria, creberrime et vehementer repetitia. Validissimo attritu et calore generata sic fuerat ex salibus blandis ammoniacalibus sanguinis Materies alcalescens et acrior, quae cum eodem in orbem projecto, alluens organa colatoria omnia, nullum aptius inuenerat in quod ex eius sinu deponeretur quam hepar, nullumque humorem, cum quo maiorem analogiam aleret, quam bilem; quare haec copiosius iusto secerni, a blando suo amarore desciscere, ac intensiorem acrimoniam contrahere debuerat." (p. 41.) * * * * *

" Qualem autem iam his miseriis obrutus inter anxia suspiria, inter eiulatus et gemitus, quos continere haud poteram, formassem Prognosin! sane nullam aliam videbam, nisi acerbam, nisi acerbam et funestam. Vna saltem mihi supererat felicitas, desperate decumbente corpore, non obstante violenta febre, mens sanissima, quod quidem diuini beneficii genus tanto magis aestimabile habere debeo, quo rarius aegris cholericis accidit, namque de illis disertis verbis inter alios notauit noster de HELWICH, quod *capite turbentur et mente percellantur.* Ipse ergo recordabar variorum, quae in antiquis et recentioribus Auctoribus de hoc morbo legeram, ipse in memoriam reuocabam aegros meos quos sanatos, morti proximos, et mortuos videram. Ipse meis oculis contuebar sonticum meum malum, intimiusque totum eius ingenium dignoscebam; ipse perdurante periculo mihi superstes manens Medicus peruagabar accuratius omnem medicinalis materiei apparatum, quem vero vanum eheu! et tantae morbi saeuitiei longe inferiorem futurum existimabam. Noueram quoque bene quam truculento mortis genere mihi discedendum esset, vix enim aliter reminiscebar aliquem periisse cholera, quam dirissimis conuulsionibus. Occurrebant mihi iniussa et vltro ac coram quasi sese conspectui meo offerebant cholera iugulatorum hominum cadauera, quorum extispicia depicta apud Autores inueniuntur. Horrescens igitur videbar mihi viuens adhuc iam conspicere proprium duodenum et ieiunum meum cum ilei parte, hic foedis ex rubro coerulescentibus et nigrescentibus maculis conspersum, atque gangraena mortifera depastum, illic liuida hostiliter furentis bilis flauedine tinctum. Neque minus haerebant memoria lectu tristissima de citissimo huius morbi exitu magnorum Medicorum praesagia, animoque obuersabantur aegri quidam ex meis, quos tardius ad acutissimum malum

vocatus optimis auxiliis seruare nequiueram. Noveram denique robustos et athletice valentes Viros non tertio aut quarto ab inuasione die, vt aliquando fit, fed intra 24. horarum spatium finita iam tragoedia abominabili hoc morbo, quem primum a peste habuit *Hoffmannus* neci traditos. An igitur spem vllam concipere licebat mihi? qui teneriorem et debiliorem intestinorum meorum fabricam a tot annis per millena phaenomena didiceram; qui dolores summos, eosque simul ardentissimos patiebar; qui pulsuum ictus celerrima frequentia funus maturaturos in temporibus et carpis percipiebam. Quis Medicorum, sagacissimus si fuerit, in hisce angustiis non diffisus fuisset suae arti?" (p. 48.)

Our readers will, we think, agree with us, that although we have in these extracts a description of a very severe form of cholera, and one closely answering to the account given by Sydenham, Morton, and other writers, yet it wholly fails to bring before us the special characters of the terrible scourge which is now among us. There are the sudden attack, without any apparent cause, the great prostration of strength, heartburn, thirst, heat, and anxiety, coldness, delirium, intense vomiting and purging, accompanied by severe pain and spasms: the vomited matters are, however, described as containing bile in an acrid and putrid state. There is no reference to the suppression of urine, although this symptom would not have escaped being recorded by so minute an observer, had it really been present. It is remarkable, too, that the diagnosis formed by Dr. Tralles of his disease was in accordance with Sydenham's description of cholera; the season of the year at which the attack took place being precisely that assigned to cholera by this great observer. It is clear, therefore, from this account that autumnal cholera occasionally showed itself in a severe or malignant form, and that it had been known to destroy life in twenty-four hours: but the disease was quite distinct in its characters and course from that which is called the Indian pestilence. The second part of Dr. Tralles's work, however, contains some facts which tend to show that malignant cholera, with *serous discharges*, had shown itself in Europe before his time, although it had not become epidemic, or so general in its attacks as to excite special attention in the profession, or apprehension among nations. We shall take an early opportunity of returning to the examination of this question respecting the origin of cholera.

The announcement made in our last week's number, respecting the discovery of peculiar bodies in the evacuations of cholera patients, has induced several correspondents to address us on the subject. We elsewhere insert* a communication from Dr. Charles Cowdell, of Dorchester, in reference to the microscopical observations on which he based his theory of the fungous origin of cholera. We have been compelled to postpone a communication on this subject received from Dr. Thomas Williams, of Swansea. This gentleman informs us that in July of the present year he submitted the cholera discharge of a patient to a microscopical examination, and discovered therein singular polygonal confervoid bodies, of which he has sent us drawings. In the more advanced cases the bodies were granular.

We this week give insertion to Mr. Brittan's researches on this curious subject, and to his paper are appended engravings from drawings made by himself. The peculiar feature in this communication is the alleged existence, *in the atmosphere*, of granular bodies similar to those discovered by Mr. Brittan in the evacuations of cholera. We invite the attention of microscopists to this subject. The

* Page 555.

air in other localities, infected and uninfected, should be submitted to frequently-repeated examinations.

We give this week an extract from the Report of the Registrar-General in reference to the deaths from cholera in the metropolis.

"The mortality from cholera has rapidly declined. The deaths from all causes registered in London in the three weeks ending September 22, were 3160, 2842, and 1981. The decrease has been exclusively in the cholera deaths, which were 2026, 1682, and 839 in the three weeks. The deaths from cholera, which in the first week of September were 300 and 400 a day, fell on the 19th to 110, and have since not exceeded 123.

"The facts which have been published in detail, will, it is believed, be found useful contributions to the natural history of the epidemic. They will show the regular course of the disease through a vast city population; the influence of sex, age, profession, and locality, and a great variety of circumstances on its mortality. It may be useful to point out now the remarkable effects of locality on the fatality of the epidemic, although the proportions may yet be altered by subsequent deaths.

"London is divided into 36 districts for registration purposes, and the districts are subdivided into 135 subdistricts. The population was enumerated in 1841, and the nearest approximation that can be easily given to the actual population is obtained by assuming that the population increased in 1841-9 at the same rate as from 1831 to 1841. Dividing the deaths from cholera in the thirteen weeks ending September 15, 1849, by the population thus estimated, the following results are arrived at, and they cannot be far from the truth:—

"More than 5 in 1000 of the inhabitants of London died of cholera; the more accurate proportion was 53 in 10,000 inhabitants. From all causes the mortality was 116; a rate which is equivalent to an annual rate of 4·64 per cent.

"35 in 10,000 of the inhabitants on the north side of the Thames died of cholera.

"104 in 10,000 of the inhabitants on the south side of the Thames died of cholera.

"The mortality was therefore three times as great on the south as it was on the north side of the river.

"Taking 10,000 inhabitants as the basis of comparison in each district, the mortality ranged from 8 in Hampstead to 225 in Rotherhithe."

The deaths from this malignant disease for the week ending September 22, were not so numerous by 843, as those recorded in the preceding week. Thus there has been a sudden reduction of more than one half, or fifty per cent. The ages at which the 839 deaths took place are thus given:—

Under 15 yrs.	Between 15 and 60.	Above 60.
234	471	134

The average daily mortality from cholera had become reduced to 120.

September 19.

	Deaths from cholera.	
In London and vicinity . .	110	
In England and Wales . .	388	
In Scotland	11	
	——	509

September 20.

In London and vicinity . .	121	
In England and Wales . .	369	
In Scotland	30	
	——	520

September 21.

In London and vicinity . .	110	

(Other returns omitted.)

September 22.

In London and vicinity . .	122	
In England and Wales . .	533	
In Scotland	21	
	——	676

September 24.

In London and vicinity . .	102	
In England and Wales . .	336	
In Scotland	25	
	——	463

September 25.

In London and vicinity . .	79	
In England and Wales . .	331	
In Scotland	57	
	——	467

The total deaths from cholera, registered from June 17th to September 25th, 1849, amount to 12,766.

Reports from different parts of the country show that the disease is generally on the decrease.

Reviews.

Clinical Lectures, delivered in the Theatre of Mercer's Hospital during the Session of 1847-8. By JAMES F. DUNCAN, M.D., T.C.D., Assistant-Physician to the Hospital, &c. &c. 8vo. pp. 122. Dublin: M'Glashan. London: Orr and Co. Edinburgh: Fraser and Co. 1849.

THE Lectures which we bring under our readers' notice, were published, as we are informed by the author, on the suggestion "of friends, whose standing and character in the profession stamp a value on their recommendation;" and after a careful perusal, we are of opinion that the recommendation is fully borne out; in this opinion, we doubt not our junior readers will concur, should they be induced by our remarks to consult the work itself.

The first of the nine lectures which constitute the volume, is on *Diarrhœa*, and treats more particularly on that form of the disease which depends on relaxation of the muscular fibres, attended with absence or deficiency of bile in the motions. The author dwells on the misuse of opium, and the efficacy of strychnine in such cases. Of its mode of action, Dr. Duncan observes: "In whatever point of view you regard it, strychnine is the direct antagonist to opium. If opium numbs the sensibility, strychnine exalts it; if opium produces sleep, strychnine excites to wakefulness; if opium impairs muscular contractility, strychnine induces spasm; if opium arrests secretion, strychnine promotes it."—p. 7. It is from these two last properties that the author has found it useful in chronic diarrhœa. A medicine of such power is of course not to be hastily employed, but to be regarded as a potent reserve when other and milder means fail.

The lecture which follows is occupied with the consideration of the complication of *Emphysema*, *Bronchitis*, and *Heart Disease*. In the diagnosis of Emphysema the following observation is of practical value: "It often happens that we learn a great deal more by the comparison of the results of percussion in ordinary and forced respiration, than we could do by the mere act itself. If a healthy man's chest be percussed in ordinary respiration, a tolerably clear sound will be elicited; but if he be desired to take in a full breath, and hold it, and percussion be performed in this state, the sound will have acquired a great increase in loudness, both because there is a larger quantity of air in the thorax, and because the parietes of the chest are put upon the stretch. In emphysema, on the cont-ary, this differential percussion does not yield anything like the same amount of increase, because neither the quantity of contained air, nor the tension of the walls, is capable of corresponding increase."—p. 12.

The fourth lecture refers to a case of *Spinal Arachnitis* which came under the author's treatment in Nov. 1847. The subject is one of peculiar interest at the present time, from its exhibiting a rare form of disease becoming frequent by its assuming an epidemic character. There would seem to have arisen within the last few years a tendency in disease to lose its sporadic character and to become contagious and epidemic: whether the former mode of propagation be owing to the supervention of fever, or whether it arise out of new conditions proper to the disease itself, it is difficult to say; but it is certain that in spite of the improvements in public hygiène which have made ague, dysentery, plague, and sweating sickness, mere matters of history in our large cities and towns, diseases of various forms, and in great severity, have, nevertheless, spread both by contagion and atmospheric influences more extensively of late than for many years previously.

Spinal arachnitis, in the epidemic form here described, assumes an unparalleled severity and mortality. It has hitherto been only seen in France and Ireland, as an epidemic, attacking for the most part young men or boys, seldom being seen in females. Various theories have been advanced to account for its occurrence, but all have failed. The treatment in the single case mentioned by Dr. Duncan was "decidedly antiphlogistic," and was successful in the result.

In the followingl ecture on Albuminuria, the author adopts Dr. Johnson's views with regard to its pathology, and supports them by the phenomena of the disease, the therapeutical indications, and the means of cure. Our readers are, however, aware that Dr. Johnson's

theory has not met with universal adoption, although it has thrown some light on treatment.

The volume contains also several valuable lectures on obscure cases of thoracic disease: as these are all of an eminently practical character, and highly instructive in the diagnosis of this disease, we confidently recommend them to the attention of students who frequent the wards of hospitals to *learn disease at the bedside*. They will find here a trustworthy clinical instructor.

Correspondence.

SUGGESTIONS AS TO THE INVESTIGATION AND DISCUSSION OF THE NATURE AND TREATMENT OF CHOLERA.

SIR,—Your notice of my lecture encourages me to make a few suggestions with reference to the proposed investigation and discussion of the nature and treatment of Cholera.

It is manifest, in the first place, that there can be no combined observation and no philosophical investigation of the disease unless there be a clear understanding as to what is meant by the term "Cholera." Those who (like myself) have been obliged to analyse the literature of the subject, must have felt how useless much that has been written is, simply from a want of a precise definition of the term. It is universally acknowledged that there is a specific cause for the morbid changes in the system, termed in the aggregate Cholera. Dr. Parkes, in his able Report on Cholera, enunciates the doctrine that "it belongs nosologically to the same order of diseases as small-pox or typhus." If so, why should Dr. Parkes have doubts as to the communicability of the poison? The answer is, that each successive case of those he analyses could not be traced to a prior case, and doubtless the conclusions drawn by Dr. Parkes are rigidly warranted by his premises. But to my mind, the conclusions so carefully made, and consequently the point and gist of Dr. Parkes' excellent and able Report, is invalidated by the omission to state what phenomena are produced by the specific cause of cholera; or, in other words, by what symptoms is that state of the system manifested in which the poison is generated *de novo*, and given off from the suffering individual. I infer, from Dr. Parkes' details of the cases upon which his conclusions are founded, that he has adopted the popular definition of the term, and limited its application to *one* form or manifestation of the disease: consequently, those cases in which the effects of the poison are manifested by paralysis of the heart, by painless diarrhœa, by dysentery, &c. would not be taken into consideration by him; yet numerous facts lead to the conclusion that persons so attacked suffer from the specific poison, and may communicate it to other persons, in whom it will be manifested in the popular form. Hence one of the conditions laid down by Dr. Parkes as necessary to be observed in an investigation of the kind—namely, that "every reputed case of the disease must be known"—is wanting in his own. I hope Dr. Parkes will understand these remarks to be made in the most friendly spirit. I have selected his Report because it is one of the ablest documents of the day, and because it permits me to show what preliminaries Dr. Parkes and myself would have to arrange before we could make any progress in a joint investigation of the disease. Of course the same remarks apply to the official documents of the Board of Health — the Report on Quarantine, for example—to the circular of the Cholera Committee of the College of Physicians, &c.

We have first, then, to define what is meant by the term Cholera; or, in other words, what are the symptoms indicating the presence of the choleraic poison in the blood? and what morbid phenomena are produced by it?

When we have ascertained the symptoms by which the presence of the choleraic poison in the blood is indicated, we shall then be in a position to say whether there be a genesis of the poison in every individual that has received it into his system, or whether that genesis only takes place in individuals under certain circumstances. In investigating these points we should be guided by analogy and experience, so that observation and inquiry should be directed to the question whether the choleraic poison is in these respects subject to the same laws as the group of febrile diseases (small-pox, typhus, &c.) with which we agree to class it. This procedure implies a systematic comparison of cholera with the members of this group.

Again: some of these circumstances have been already ascertained, and may be reduced to general expressions. It has been found, for example, that the popular form (or the most malignant, pathologically) prevails most where three kinds of febrific poisons are diffused in the atmosphere. These are—

1. The malarious poison.
2. The sewer poison.
3. Effluvia from organized bodies, whether living or dead: if from living, the poison may be termed the *ochletic*.

As these febrific poisons have their own action on the system, and excite morbid changes peculiar to themselves, it is important to inquire *how far the choleraic poison modifies their action, or is modified by them;* consequently, the laws of action of malaria, and of the other poisons of this class, the endemic, must be considered.

To illustrate this point by an example, let us suppose that an individual from a marshy but not infected district, travels through an infected place to a locality perfectly free from *any* form of febrific poison,—no malaria, or miasm, or choleraic poison, being present. The marsh poison, when he leaves his home, is latent in his system; in the infected place through which he travels he only comes in contact with one person, but that one affected with choleraic *dysentery*, and from him he receives the choleraic poison, which by the time he reaches his destination acts upon the system, so as to develope the malignant or popular form. He dies. The individuals around him are necessarily infected by him with the choleraic poison: would it, under the circumstances in which they are placed (that is to say, of freedom from any other febrific poison) affect those individuals in the same way as the deceased, or as persons already long exposed to a febrific atmosphere? or would it in fact affect them at all? Now, analogy leads us to infer that those persons, if attacked at all, would experience only the milder form: thus the whole series of facts would lead directly to the conclusion, not only that cholera is a non-contagious disease, but that it may arise *de novo;* yet, if the premises I have advanced be granted, such a conclusion would be manifestly erroneous.

This principle—namely, that two or more poisons present together in the blood produce phenomena, when in combination, differing altogether from those produced by either acting singly, a principle I have long held—will be found fruitful in explaining many anomalies in the pathology of cholera, otherwise inexplicable. It is well known in chemistry how a change in the proportion of the elementary constituents of a body will render a harmless substance noxious, and *vice versâ*. In the same way the combination of the choleraic poison with malaria or miasm may modify the elementary composition of the latter, and so energize their action in the system.

There are numerous other relations in reference to which the cholera should be investigated,—as, for example, to other specific febrile poisons, to individual circumstances, and atmospheric changes. The preceding illustrations are, however, amply sufficient to indicate the wide extent of the proposed investigation, and the necessity for a scientific method and nomenclature. If, to be "attacked by the disease," and "infected by the poison," for example, be used synonymously, as some (even high authorities) use them, investigation and discussion need never be commenced.

Then, as to the *treatment*. It is obvious from the preceding remarks that any special plan of treatment applicable to all cases can never be discovered, and ought indeed never to be sought for. I cannot conceive anything more unscientific. The various forms of the disease being discriminated, and their etiology determined, the science of medicine will supply the principles and details of treatment. My use of quinine as a prophylactic remedy is based on the intimate connexion demonstrated to exist between the malignant form of cholera and malaria; and it is as an antidote to the latter poison, and not to the choleraic, that I recommend it. By neutralizing the malarious poison, we render the choleraic comparatively harmless. But the whole class of remedies used for the cure of ague might be used advantageously; as salicine, arsenic, iron, charcoal, &c. It may be doubted, however, whether quinine will be so certainly beneficial where the sewer-poison, or animal effluvia, are in combination; and whether aromatics and stimulants, as piperine, &c., might not to be combined with it.

The administration of opium should be on fixed principles, which a due knowledge of the various causes of the disease ought to supply. I administer opium—first, because it fulfils the pressing indications of relieving pains and checking violent morbid action; secondly, because it has been administered with great success in the treatment of agues. (See Craigie's Practice of Physic, Vol. i. p. 106.) The application of the wet sheet carries the patient through the hot and sweating stages. The treatment of the gastro-enteric complications of ague might also be applied advantageously to the treatment of cholera in its milder forms: thus charcoal has been found of essential service, Dover's powder, &c.

The question whether the diarrhœa should be checked absolutely, or in what degree, might be answered by our experience as to the treatment of the diarrhœa, of typhus, small-pox, &c. The fact that the most fatal cases are those unaccompanied by diarrhœa, and my own observations, have led me to look upon the diarrhœa as being in some degree a curative act of the organism; and hence the utility of an aperient guarded by a gentle opiate, as castor oil in combination with laudanum.

These remarks must, however, be received as simply suggestive, and as not intended to give a systematic outline of a method of investigating the nature and treatment of cholera.

T. Laycock.

York, Sept. 22, 1849.

MICROSCOPICAL RESEARCHES ON CHOLERA.

SIR,—Will you allow me to explain an expression which occurred in an article in the MEDICAL GAZETTE of last Friday, and which has given rise to some misapprehension as to the part which I took in certain investigations into the causes of Cholera. It is stated that Mr. Brittan, "in a series of investigations undertaken *in conjunction with* Mr. Swayne," had made some discoveries respecting the origin of the disease. The fact is, that Mr. Brittan and myself were deputed by a Sub-Committee of the Bristol Medico-Chirurgical Society, at one of their meetings, to examine microscopically the evacuations of two cholera patients, and to make reports and drawings of the appearances, which were to be both presented at the next meeting. We conducted our investigations separately, and not "in conjunction," and the result was the discovery of the peculiar bodies which occur in the evacuations of cholera, which discovery was made by both of us *simultaneously*, but *quite independently of each other;* for, without having had any previous communication, we both brought before the other members of the Sub-Committee, at their next meeting, specimens and drawings of the peculiar bodies in question, and asserted our conviction (in which the other members coincided) that these bodies were characteristic of the evacuations of cholera, and perhaps the very agents which produce the disease. From this, the first discovery, until the present time, the investigations have been conducted by both of us quite separately and distinctly.—I am, sir,

Your obedient servant,
JOSEPH GRIFFITHS SWAYNE.

Clifton, Sept. 22.

*** Additional interest is given to this discovery by the fact that it was simultaneously made by two gentlemen without any communication with each other. The correctness of the observations is thus strongly confirmed.

DISCOVERY OF PECULIAR BODIES IN THE PERSPIRATION OF CHOLERA.

SIR,—In this week's number of the MEDICAL GAZETTE there is an announcement of the discovery by Mr. Brittan, of Bristol, "of certain peculiar bodies, hitherto undescribed, as a characteristic constituent of cholera evacuations."

In confirmation of the discovery made by Mr. Brittan,—a discovery on which I cordially congratulate him, while it gratifies me exceedingly, as it appears to promise a demonstration of the views published by me in my "Disquisition on the Fungous Origin of Cholera,"—I may be permitted to say that, in concert with my friend Mr. Curme, of this town, some microscopic investigations have been made into the nature and appearances of the exudations of cholera patients; and that, although our opportunities have hitherto been very limited, they have yielded *positive* results sufficient to encourage a more extended series of examinations.

To avoid the appearance of plagiarism, I think it well, before seeing the publication of Mr. Brittan's observations, to state that, in the clammy sweat accompanying the last stage of collapse in cholera, we have observed minute organized bodies closely resembling other bodies admitted by naturalists and microscopists to have a *protophytic* organization.

I should not have published this immature account of our incomplete investigation, but with the twofold object of corroborating (it may be) Mr. Brittan's statements, and of vindicating myself from the possible imputation of piracy in anything I may hereafter publish on the subject; and I am, Mr. Editor,

Yours very obediently,
CHARLES COWDELL,
Physician to the Dorset County Hospital.

Dorchester, Sept. 22.

A CASE OF TRAUMATIC TETANUS CURED BY THE DESTRUCTION OF THE CICATRIX BY MEANS OF RED-HOT IRON.

A ROBUST youth, aged twenty-two years, was seized with trismus on the ninth day after the receipt of a wound on the temple, when it had almost healed. He experienced a painful constriction of the chest, followed by reiterated convulsions and opisthotonos. Suppression of urine, delirium, dysphagia, and unconsciousness followed.

All other means having failed to abate the severity of the disease, M. Remy, on the seventh day of the attack, determined to have recourse to the mode of treatment advised by Larrey, viz. cauterising the cicatrix in its whole extent with an iron heated to a white heat. The symptoms immediately underwent a great improvement: the convulsive movements became less frequent, and soon ceased entirely; consciousness returned, and the urinary excretion reappeared; but the muscular rigidity continued, the slightest movement or attempt at the deglutition of fluids produced a sense of suffocation; the recumbent posture had become impossible, and the patient exclaimed against a breath of air. This condition, which lasted from four to five days, disappeared under the use of digitalis in large doses. In fifteen days more convalescence was complete.—*Comptes Rendus*, Jan. 1849. χ

Medical Intelligence.

HISTORY OF THE ORIGIN, PROGRESS, AND MORTALITY OF THE CHOLERA MORBUS.

[Continued from p. 511.]

NOTWITHSTANDING the evidences of a definite law of diffusion in cholera, which we noticed in a preceding article, the progress of this mysterious malady has been marked by anomalies irreducible to any law of propagation hitherto ascertained, and even baffling theoretical interpretation. Of its rate we have already noted the extraordinary variations: having seen it span, within a year, the base of the Indian peninsula, yet take six years to travel from London to Rome. We have seen it sometimes radiating in all directions—as on its first outburst at Jessore; sometimes travelling in a definite stream, as along the Ganges, the Tigris, and the Danube. The limits of the cholera streams are sometimes astonishingly well marked. The poison often ravaged one bank only of the Ganges; and Colonel Rowles mentions a case in which it swept one side of a ship, lying in the Madras Roads, killing many of the sailors, while their comrades on the other side of the vessel remained untouched. We have seen the infection pursuing a course alternately regular and erratic, creeping and saltatory. This is as true of its progress from street to street of a single town, as of its spread from town to town, or from country to country across the globe. Thus it leaped at once from Sunderland to London, the intervening towns remaining uninfected. At the same time it also spread step by step from Sunderland to Houghton-le-Spring, Tynemouth, Newcastle, &c. So in London, the other day, it appeared one week in Fetter-lane, the next in Chancery-lane, the next in Shire-lane—creeping westward from street to street; yet, at the same time, it was heard of breaking out simultaneously in remote parishes, as if from separate centres of infection. On its first outbreak in Bengal in 1817, during its progress along the Ganges to the British camp, it overleaped Banda, Allahabad, Benares, and several other cities lying in its track; but attacked them, as if by a receding wave, in the following year. Moorshedabad, one of the filthiest delta-towns of Bengal, lying in the very centre of the conflagration, is said to have entirely escaped. In its passage through Europe the epidemic left whole countries almost entirely untouched. Hanover, for example, with the single exception of Lunenburg, escaped; as also did Carinthia and the Tyrol, though surrounded by infected districts. Leipsic, Dresden, and the principal towns of Saxony, were equally fortunate, though their exemption cannot be ascribed to any special superiority in point of drainage, ventilation, or general well-being. A low level, heat, and humidity, usually promote the spread of cholera; yet to these rules we find many unaccountable exceptions. Generated in Bengal during the heats of a tropical summer, the poison yet ravaged Moscow and Archangel in the depths of a Russian winter, with the snow lying thick on the ground and the thermometer 35 degrees below zero. It was as virulent at Delhi and Meerut during the rainy season, as in Bundelcund during the dry hot months. And though it spared many hill forts and isolated mountains—as Rhotass, Adjeghur, and Killengur, while the plains around their feet were decimated; yet, strange to say, it climbed to the medical depôt at Landour, 8,000 feet above the level of the sea. At Gibraltar, too, the epidemic proved as fatal to the men encamped on Windmill-hill, and on an elevated part of the rock called Buena Vista, as to those quartered in the very centre of the town. Even the neutral ground, though always a safe refuge from the terrible black-vomit which infests the West Indies and Spain, afforded no immunity to those who fled thither from the cholera in 1834. We have seen the pestilential influence ascending the Ganges against the periodical monsoon, and travelling thus opposed as rapidly as in other districts during a windless season. It is equally inconstant in its relation to other meteorological changes, though much stress has been laid upon its supposed dependence on the electrical condition of the air. It has sometimes, as at Petersburgh, been ushered in by thunderstorms; but thunderstorms have often, also, as at Paris last year, appeared to check its progress. At Madras it was heralded by earthquake; at Chittagong and Dacca it prevailed during inundations; at Nagpore and Saugor it raged with the high winds sweeping violently through all the streets; and in one town or other, as well of Europe as of India, it has prevailed during each month of the year from January to December.

Not the least singular of the circumstances connected with this mysterious disease is its relation to the peculiar febrile catarrh called influenza. In September 1780, a few months before the first eruption of the *mort de chien*, a severe epidemic catarrh broke out in Bengal—the birthplace, be it remembered, of epidemic cholera. This influenza, after overrunning the Indian Peninsula, and attacking the British army at Negapatam in Tanjore, spread westward rapidly, pursuing the very track by which, fifty years later, the cholera penetrated to Europe. By the end of 1781 it had reached Moscow; early in 1782 it attacked

Petersburgh, and, spreading thence through the north of Europe, appeared in April, 1782, at Newcastle-upon-Tyne,—*within a few miles of the point at which cholera at first invaded England.* Next month (May, 1782) it appeared in London; overleaping, *as the cholera did subsequently*, the interjacent towns. Like the cholera, it spread shortly afterwards to Scotland and Ireland. Like the cholera, it attacked France later than England—appearing at Paris in June 1782. Like the cholera it spread by a reverted current to Portugal, Spain, and Italy. Like the cholera it crossed the Atlantic, and overran America and the West Indies; and, like the cholera, it sent forth an eastern as well as a western stream, spreading from Bengal to China, at the same time that it was overrunning the continent of Europe.

It is impossible to regard as accidental this striking similarity of track, especially as each invasion of cholera has been preceded by an epidemic influenza. The catarrhal fever, moreover, resembles cholera in chiefly ravaging low-lying, ill-drained quarters; in often exempting localities closely contiguous to the districts attacked; in raging during all states of the weather; in advancing, sometimes gradually, and sometimes by irregular and apparently capricious leaps; in attacking persons with a suddenness that has procured for it in Germany the name of *blitzkatarr*, or lightning catarrh; and in producing a nervous prostration so great as to be frequently fatal, especially to the aged. During the last century the influenza several times prevailed in Europe, and has indeed caused a greater aggregate mortality than even cholera itself. The frightful agony, however, inflicted by the latter disease, and the terrible rapidity with which it destroys its victims, render it a far more appalling form of pestilence, and have inspired mankind with a much more intense desire to discover its hidden cause and to avert its tremendous effects.

How is the cholera generated;—how spread;—what is its *modus operandi* on the human frame? These questions are in every mouth. What subtile influence passes by—what blighting cloud overshadows the world—when thousands thus fall death-smitten: one moment warm, palpitating, human organisms—the next a sort of galvanized corpses, with icy breath, stopped pulse, and blood congealed—blue, shrivelled up, convulsed?.....And, above all, how is it that, while the mechanism of life is thus suddenly arrested, the body emptied by a few rapid gushes of its serum, and reduced to a damp, dead, clay-cold mass, the mind within remains untouched and clear,—shining strangely through the glazed eyes, with light unquenched and vivid,—a spirit, looking out in terror from a corpse?

These problems are, and will probably ever remain, among the inscrutable secrets of nature. They belong to a class of questions radically inaccessible to the human intelligence. What the forces are which generate phenomena we cannot tell. We know as little of the vital force itself as of the poison-forces which have power to disturb or suppress it. The abnormal decomposition of the blood in cholera can as little be traced to its potential cause, as can the normal decompositions by which that plastic fluid, in its passage through each organ of the body, is made to yield a different secretion; at the same time strangely furnishing, to the very organs whose influence it thus obeys, the materials of their growth and reparation. When we see a piece of iron, after falling to the ground, rise again through the air in obedience to a magnet held above it, we cannot tell how the earth first drew towards its surface the distant mass; nor how afterwards the bar of steel, without contact, disturbed its rest, and set it moving in an upward direction. When we attribute these appearances, so familiar, yet so profoundly marvellous, to attraction; when we distinguish one attraction as terrestrial, and the other as magnetic, we do but cheat our yearning curiosity with words. Just so, when we see the typhus-poison producing delirium, and the cholera-poison leaving the brain untouched, while both poisons agree in attacking the mucous lining of the intestines; and when, for the explanation of these facts, we have recourse to a pretended nervous "sympathy," conceived as operating in the case of typhus, but as remaining unexcited in that of cholera, we are again only disguising our ignorance beneath an empty phrase.

Even if we could obtain the cholera poison on the point of a lancet as we can obtain the poison of small-pox; if we could by a puncture produce the former disease as certainly as we can the latter, we should still have learnt absolutely nothing as to the generating cause of the disorder—as to what the powers are, or how they work, which in the one case fever the blood, and produce a pustular eruption on the skin; and in the other arrest the secretions, extrude through the intestines the serum of the blood, and turn the surface of the body cold and blue.

Liebig, indeed, following the old humoral pathologists, assimilates the action of morbid poisons in the blood to that of yeast on wort; and the new currency which this old doctrine has derived from his support entitles it to a brief consideration here. Yeast, he observes, is gluten in a state of chymical change; its molecules are in motion, and this motion they can communicate to the molecules of other compounds with which they are bought in contact. Thus by a

fermentation which yeast originates, sugar is transformed into alcohol; and if gluten be also present, this gluten is thrown into a state of change and becomes itself yeast, capable of producing a new fermentation. Just so, he says, animal matter, in the state of chemical change called putrescence, is capable of throwing any blood with which it may come in contact into an analogous state of change or fermentation; and this chemical activity, resisted with more or less energy by the vital force, produces all the phenomena of febrile disease. As for the reproduction of the morbid virus in the putrescent blood, it is regarded as precisely analogous to the reproduction of yeast in the fermenting wort.

This *zymotic* theory, ingenious as it is, is incompatible with many observed facts. In the severest cases of pestilential disease the victims are struck down as suddenly as by a dose of prussic acid. It has been said of Asiatic cholera that in its most malignant form its only symptom is death. The supposed operation, essentially gradual, of a ferment in the blood, is evidently insufficient to account for this tremendous phenomenon. And even admitting, in less rapid cases, this chemical operation (of which there is no possible evidence), the theory appears wholly inadequate to explain why the decomposing blood should be determined, in cholera, *inwards* to the intestinal canal through which its serum is poured out; whereas in plague the diseased fluids tend to escape *outwards*, at the surface of the body, through buboes, carbuncles, and running sores; while again, in the third great type of pestilential disease, (the yellow fever), they produce, by their determination to the stomach, the hideous phenomenon of the black vomit. Again, testing this celebrated theory by other than epidemic disease, how does it explain the operation of the syphilitic poison, first to ulcerate a mucous surface, then, after a lapse of months, or even of years, to attack in succession the throat, the skin, and, last of all, the bones? Or what real available light does it throw on the strange phenomena of hydrophobia, for example—on the shrinking dread of fluids by the human sufferer, while the animal whose bite communicated the disease laps water freely?

Evidently we can no more trace the secret cause and *modus operandi* of these morbid influences, than we can tell why or how it is that colchicum acts only on the ligaments, digitalis on the heart, aloes on the mucous lining of the intestines, Swiss water on the thyroid gland, and the paludal miasma on all the tissues of the body. Similar objections apply to all the speculative theories which have been set up to account for the generation and propagation of pestilential epidemics in general, and of cholera morbus in particular. The *animalcular* theory, for example, attributes the phenomena of cholera to the ravages of microscopic insects, like those which produce blight and smut in the vegetable kingdom. The immense development of insect life which has often preceded pestilence (as in West Barbary, for example, in 1799) gives a certain appearance of truth to this hypothesis, which would also help us to a plausible explanation of the erratic incursions of cholera, resembling, as they do, the occasional descent of blight on half a crop while the other half remains sound. The observation by Ehrenberg of microscopic animalcules, or monads, in the bread and flour during the prevalence of cholera in Germany; and the fall recorded by Dr. Barker of an ink-black fœtid rain (doubtless animalcular) near Carlow, on the 14th of April, this year,* a period said to have been coincident with a new outbreak of cholera, also lend a certain plausibility to this hypothesis, which prevails extensively in India. But this animalcular hypothesis (like the cognate theory of a minute fungus, whose spores, floating in the air, are conceived to be the germs of epidemic disease) fails to include all the observed phenomena. For the supposed monads, animal or vegetable, can hardly be conceived (if analogy be fairly kept in view) as susceptible of development or propagation during the opposite extremes of heat and cold which have coincided with the prevalence of cholera. Nor is the hypothesis of these infinitesimal germs floating in the air, capable of accounting for the spread of a distemper which often travels against the wind.

The *telluric* theory supposes the poison of cholera to be an emanation from the earth, and its advocates rely mainly on the fact that the disease has never been known to prevail on board a ship at sea, unless in cases where some of the crew had already sickened within a short period after quitting the land. These theorists also remark that, by conceiving the noxious exhalations to be given off at depths of the earth below the action of atmospheric influences, the difficulties resulting from the prevalence of cholera in all kinds of weather disappear. But the nature and essence of this supposed poison, how generated, how spread, &c., are questions left to vague surmise; and the prevalence of the pestilence in all diversities of soil as well as of climate is scarcely compatible with the hypothesis of its subterranean evolution.

The *electric* theory, which has at present many zealous champions, is evidently inadmissible as an explanation of phenomena which have been developed under all possible fluctuations of the atmospheric electricity, as well as during its undisturbed equili-

* Vide *The Times* May, 5, 1849.

brium. The meteorological reports of the last few weeks are, indeed, sufficient of themselves to refute such an hypothesis. We find the air returned, on successive days, as electro-positive, electro-negative, and neutral; with a tension sometimes weak, sometimes strong, sometimes variable, sometimes null; while the phenomena of cholera, during the same period, have exhibited no corresponding fluctuations.

The *ozonic* theory, which has been recently started, attributes cholera to an alleged *deficiency*, and influenza to an affirmed *excess*, of ozone in the atmosphere. Ozone is a volatile product, composed, like water, of hydrogen and oxygen, but having an extra dose of oxygen. Schönbein ascertained that it is developed during the working of an electrical machine; and it is said to be produced naturally in the air by an unexplained action of the atmospheric electricity on moisture. This ozone has the property of oxydizing and so deodorizing all putrescent exhalations, and, besides its purifying effect on the air, it is supposed to promote the decarbonization of the blood in the lungs, and to stimulate by a free supply of oxygen the performance of the vital functions. When ozone is deficient, it is said the blood remains unrelieved of its carbon—the organs of secretion, deprived of their natural stimulus, cease to act—the air becomes loaded with putrescent exhalations—in a word, all the conditions of cholera are fulfilled, and an epidemic outbreak ensues. A superabundance of ozone, on the other hand, is supposed to irritate the mucous lining of the respiratory organs, and so to produce epidemic catarrh. Birmingham, according to this theory, escapes cholera because its great fires generate ozone, and thus artificially make good the deficiency in the natural supply. London has suffered from cholera because (according to Quetelet) during three months past the electric tension has been low, and the supply of ozone consequently defective. This statement is made on M. Quetelet's authority. Dr. Moffat, on the other hand, is said to have ascertained experimentally an excess of oxone, due to a corresponding elevation of electric tension, during epidemic influenza.

This hypothesis is ingenious, and may usefully engage the attention of experimentalists. So far as we can yet judge, it seems to rest on assumption, and to afford explanations alike inconsistent with recorded facts. A glance at the meteorological returns will show that cholera has coexisted with excess as well as deficiency of atmospheric electricity, and consequently also of atmospheric ozone. It has ravaged one town and spared another in its immediate vicinity (Moscow, &c., for instance), though plunged in the same atmosphere. Birmingham, with its alleged excess of ozone, is not, as it should be, the permanent seat of influenza, and the towns situated amidst the great blast furnaces of Shropshire (Wednesbury, Oldbury, &c.), so far from participating in the immunity of Birmingham, have, on the contrary, been decimated by the epidemic.

[To be continued]

ABOLITION OF INTRAMURAL INTERMENTS. MEDICAL PETITION TO THE BOARD OF HEALTH.

Sir,—I beg to enclose a copy of the petition to the Board of Health, drawn up and signed by the medical practitioners in St. John's district, Paddington. The graveyard in question has been established rather more than 80 years: the average number of burials is 1,200 annually, and during the last ten weeks they have interred 358. The ground extends over rather more than five acres; one acre being set apart for the opulent, appears to be but little used. No plan is kept of the relative position of the graves, and thus the sexton is compelled to resort to the process of boring, to find a spare place for the next new comer.

Trusting our medical brethren in other districts will unite in a similar manner to prevent intramural burials,—I am, sir,

Your obedient servant,

J. S. Drury, M.B. Hon. Sec.

P.S.—The following gentlemen gave their signatures last night, to be appended to the petition:—

J. B. Brown, 27, Oxford Square; Jno. Gregory Forbes, 14, Devonport Street; Robt. Barnes, M.D., 126, Gloucester Terrace.

44, Albion Street, Sept. 20, 1849.

9, Cambridge Square, Hyde Park,
15th September, 1849.

To the General Board of Health.

Gentlemen,—We, the undersigned medical practitioners in Paddington and its vicinity, respectfully call upon the Board of Health to exercise the power with which they are invested, for the purpose of closing the burial ground of St. George's, Hanover Square, situated in the very heart of this populous neighbourhood.

Firmly convinced that intramural burial grounds are at all times most prejudicial to the public health, we feel that they are more especially so at a time when the metropolis is afflicted by an unexampled visitation of epidemic cholera.

We moreover respectfully urge our petition on account of the notoriously overcrowded state of this particular burial ground; and indulge the confident hope that your honourable Board will at once terminate a nuisance which evidently tends to poison

the atmosphere, and to produce the most baneful consequences in this otherwise healthy locality.

W. D. Chowne, M.D., 8, Connaught Place West; R. H. Goolden, M.D., 41, Sussex Gardens; Henry Bennett, M.D., 9, Cambridge Square; Thomas W. Grant, 9, Connaught Terrace; Robert Stephenson, 11, Oxford Terrace; George Gaskoin, 34, Cambridge Terrace; John Pyle, 56, Oxford Terrace; Henry Howlett, 18, Cambridge Terrace; F. W. Mackenzie, M.D., Chester Place; Robt. Woollaston, 13, Conduit Street West; Thomas Hill, 1 a, Sussex Terrace; Charles A. Adey, M.D., 49, Connaught Sqnare; Thomas G. Phillips, 44, Albion Street; Geo. Reece, 45, Sussex Gardens; William Robins, 16, Upper Southwick Street; Edw. Hart Vines, 6, Chepstow Villas; John Enscoe, 79, Oxford Terrace; Thomas Ballard, 10, Southwick Place; W. Thompson Boddy, 31, Albion Street; Wm. Richardson, 17, Radnor Place; Charles S. Webber, 9-23, Connaught Square; Edgar Barker, 40, Edgeware Road; David Dickman, 14, Porchester Place; James Newton Heale, 11, Westbourne Crescent; John Morgan, 5, Albion Place; W. Teevan, 44, Gloucester Road; W. C. Evans, 128, Upper Berkeley Street West; James H. Allcyne, 27, Gloucester Road; Robt. W. Powell, 24, Upper Berkeley Street; Edwd. Jno. Tilt, 40, Gloucester Road; R. U. Lawrance, 21, Connaught Square; Thos. Moore, 23, Cambridge Street; Octavius A. Field, 4, Stanhope Terrace; Henry Ancell, 3, Norfolk Crescent; Douglas Dutton, 73, Connaught Terrace; Godfrey Phipps, 39, Connaught Terrace; C. Paget Blake, M.D., 43, Connaught Square; Erskine Goodman, 6, Radnor Place; Chas. Arthur Aikin, 1, Albion Street; J. S. Drury, 44, Albion Street; Geo. Webster, 78, Connaught Terrace.

NATIONAL INSTITUTE OF MEDICINE.

PROPOSED CONFERENCE.

Hanover Square Rooms, Hanover Square, September 5th, 1849.

I am requested by the Council of the National Institute of Medicine, Surgery, and Midwifery, to forward to you the following Copy of a Resolution passed unanimously at the General Meeting of the Institute, held at the Hanover Square Rooms, on the 8th day of August, 1849:—

Resolved—"That this meeting cannot too strongly urge upon their medical brethren the necessity of united action; and they recommend that the Council of the Institute do forthwith convene a general conference of delegates from the various associations that have been established for the purpose of effecting a reform of the laws governing the medical institutions of the kingdom, for the special purpose of securing as extensive an union of sentiment and action as possible upon the main principles of medical legislation."

I am requested also to state to you, that, during the last two Sessions of Parliament, the Institute has acted in concert with the Corporate Institutions of this country, for the purpose of obtaining an Act of Parliament reforming the laws by which at present the profession is governed; in the earnest hope, and with the just expectation, that a conciliatory course of conduct would ensure success. From causes, not originating with itself, which have been explained to the profession, the efforts of the Institute, acting by its representatives in the Conference recently held at the Royal College of Physicians, have for the present been defeated, by the defection of one of the parties from the principles to which the Conference had unanimously agreed.

Upwards of twenty years' agitation in the cause of Medical Reform, by numerous associations successively, and of late years by the National Association and the National Institute, under different governments, and the most variable circumstances, has tended only to confirm the truth, which developed itself at a very early period, that this great political, social, and professional object, is only to be achieved by opposing the combined efforts of the great body of the profession against the narrow and exclusive policy of a small, but, from the defects of the laws, and circumstances of misrule and bad government, an influential and powerful minority.

The Council of the Institute, with ample opportunities of forming an opinion, are convinced that the continuous exertions of the profession, during this long period, although hitherto failing to secure a consummation of the desired object, have told in favour of Medical Reform with a cumulative effect, and that, at the present moment, a combined effort on the part of all classes of Medical Reformers would lead to a speedy settlement of this great question.

I am accordingly instructed to intimate to you that it is the intention of the Institute forthwith to renew its exertions with increased vigour, for the purpose of obtaining a legislative enactment and a redress of grievances during the next session of Parliament; and that it is the earnest desire of the Institute, and the object of the above resolution, to devise such a plan of operations as shall meet with that general co-operation amongst Medical Reformers which is so absolutely necessary.

In accordance with the resolution, and in furtherance of these views, the Council of the National Institute request me to inquire whether it will be convenient to you

to assist at the Conference intended to be convened in London, of all bodies who have evinced an interest in the settlement of medical affairs.

It is contemplated that the proposed Conference should take into consideration a comprehensive view of all questions upon which a difference of opinion has subsisted between the various sections of the medical profession, and in particular—

1. The practicability of obtaining a redress of the monster grievance inflicted by the Council of the Royal College of Surgeons, and of opening the College to its Members, so as to avoid the necessity of a new incorporation; and the most expedient course to be adopted in reference to the position in which the Council of the College at present stands, in relation to the "Principles" of a Medical Reform Bill recently laid before the profession.

2. The Apothecaries' Society.

3. The proposed new incorporation.

4. The propriety of convening a General Meeting of the profession at large, and the course to be adopted at such Meeting.

The Council will feel obliged by an early reply to this application, and if ———— should signify —— intention to attend the Conference, due notice will be forwarded of the day and hour of meeting.

I have the honour to be, ——,

Your most obedient servant,

GEORGE ROSS.
Secretary.

To ——.

THE CHOLERA IN IRELAND.

THERE has not been since Saturday a single fatal case reported. It is not, however, to be inferred from this that the pestilence has suddenly disappeared altogether, but there are symptoms which medical men are disposed to regard as favourable to the latter supposition, namely, the gradual reappearance of the ordinary maladies incidental to this particular season of the year; such as colds, rheumatisms, &c. It has been the subject of remark that since the first outbreak of the cholera in Dublin, all other diseases to which flesh is heir seemed to have vanished, leaving, as it were, a clear field for the ravages of the terrible enemy. A like phenomenon was observed in the year 1832.

THE CHOLERA AT BILSTON.

IT is well known that in 1832 this town suffered severely from the visitation of cholera. Out of a population of 14,700, there were 3568 attacked; and of this number 742 died. The present population of the town is 22,000; and from August 8th, the date of the first death from cholera, there were up to September 24th, 3444 new cases of diarrhœa, 1950 old cases, and 510 deaths from cholera. In the cases of diarrhœa that have progressed to malignant cholera, the ratio of mortality has been far greater than in 1832.

MEDICAL APPOINTMENT—LONDON HOSPITAL.

MR. J. C. WORDSWORTH has been elected to fill up the vacancy in the office of Assistant-Surgeon to the London Hospital, occasioned by the election of Mr. Curling to the office of surgeon, in the room of the late Mr. Andrews.

MEDICAL APPOINTMENT—CHRIST'S HOSPITAL.

THE office of Dentist to Christ's Hospital, vacant by the death of Mr. Fox, has been filled by the appointment of Mr. Tracy, of St. Bartholomew's Hospital.

MEDICAL APPOINTMENT BY THE BOARD OF HEALTH.

DR. LEWIS, of Edward Street, Portman Square, has been appointed by the General Board of Health, the Medical Superintendent of St. George's, Hanover Square, Westminster, Chelsea, and Kensington.

OBITUARY.

ON the 8th inst., at Wisbeach, John Rose Weatherhead, Esq., surgeon, deeply lamented by his beloved wife and a large circle of friends, who deplore their loss as irreparable.

On the 14th inst., aged 77, Robert Higgins, Esq., surgeon, Newport, Salop, in which town he practised for upwards of half a century.

On the 13th instant, at Kennitty, King's County, deeply and deservedly lamented, in the prime of life, of brain fever, after a few days illness, James Willington Walsh, Esq., M.D., Fellow and Licentiate of the Royal College of Surgeons in Ireland, Medical Superintendent of the Kennitty Dispensary and Temporary Fever Hospital, leaving four young and helpless orphans to deplore his irreparable loss.

On the 17th inst., at his residence, Cheshunt, Herts, Edward Harrold, Esq., M.R.C.S., in the 81st year of his age.

Selections from Journals.

OBESITY, SIMULATING PREGNANCY. CAUTION IN THE DIAGNOSIS OF PREGNANCY. BY DR. LEOPOLD SCHÖNBURGH.

MRS. ——, whose husband had been separated from her by imprisonment upwards of three months, after exposure to cold, experienced all the symptoms of pregnancy. She was a modest and virtuous woman, and believed herself to have been three months pregnant. In about eight weeks more she believed she felt the movements of the child; the abdomen continued to increase in size proportionably. At the end of nine months

her abdomen presented the appearance of the full period of gestation, but she had not felt the supposed fœtal movements for several weeks. The catamenia now returned regularly at each month; her health was good, and the size of the abdomen again decreased to the size of about five months pregnancy. The umbilicus was depressed, the parietes felt doughy, free from fluctuation, the hands could be pressed below them four or five inches downwards towards the spine, and could be made to meet together beneath the fat integuments; the uterus could be felt somewhat enlarged in the hypogastric region. On examination per vaginam, the os uteri could be readily reached: it was soft, and seemed swollen; two lateral cicatrices could be perceived on its surface. The cervix uteri was rather more than half an inch in length. The posterior wall was soft and rather tender; pressure on the abdomen could be felt to depress this organ. The mucous membrane of the vagina did not present a bluish, but the ordinary red colour.

It was clear that no pregnancy existed in this case, but that the suppression of the catamenia by cold had given rise to the rapid development of fat, and congestion of the pelvic viscera, with the consequent enlargement of the abdomen.—*Casper's Wochenschrift*, March 1849. χ

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

A Successful Case of Cæsarean Section, with Remarks, &c. By Thos. Radford, M.D. F.R.C.P.

Cholera; its Epidemic, Endemic, and Contagious Character; its Mode of Propagation, &c. By Henry Stephens, M.R.C.S.E.

Treatment of Cholera at the Royal Hospital, Haslar, during the Months of July and August, 1849; with Remarks on the Name and Origin of the Disease. By John Wilson, M.D. F.R.S., Inspector of Naval Hospitals.

The Cholera considered Physiologically. By Forbes Winslow, M.D. &c.

Comptes Rendus, Nos. 10 and 11, 3rd and 10th Sept. 1849.

The British American Journal of Medical Science, Sept. 1849.

Boston Medical and Surgical Journal, Sept.

Cholera, its Cause and Prevention. By Mr. Cooke.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 30·15
,, ,, ,, Thermometer[a] ..... 55·7
Self-registering do.[b] .... Max. 81° Min. 32·8
[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·11—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 2.°1 below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Sept. 22.

Births.	Deaths.	*Av. of 5 Sum.*
Males.... 741	Males.... 918	Males.... 513
Females.. 659	Females.. 1063	Females.. 495
1400	1981	1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1981	1008
Specified Causes	1965	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	1291	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	32	36
3. Brain, Spinal Marrow, Nerves, and Senses	132	115
4. Heart and Bloodvessels	34	38
5. Lungs and organs of Respiration	97	81
6. Stomach, Liver, &c.	52	68
7. Diseases of the Kidneys, &c.	11	8
8. Childbirth, Diseases of Uterus, &c.	11	11
9. Rheumatism, Diseases of Bones, Joints, &c.	9	6
10. Skin	1	1
11. Old Age	52	32
12. Sudden Deaths	3	8
13. Violence, Privation, Cold, &c.	12	36

The following is a selection of the numbers of Deaths from the most important special causes

Small-pox	5	Convulsions	43
Measles	19	Bronchitis	33
Scarlatina	41	Pneumonia	48
Hooping-cough	27	Phthisis	106
Diarrhœa	238	Lungs	5
Cholera	839	Teething	6
Typhus	73	Stomach	9
Dropsy	15	Liver	14
Hydrocephalus	27		
Apoplexy	30	Childbirth	9
Paralysis	16	Uterus	2

REMARKS.—The total number of deaths was 973 above the weekly summer average.

NOTICES TO CORRESPONDENTS.

T. T. T.—The Treatment of Cholera by Acetate of Lead, as recommended by Dr. Graves, has been frequently noticed in the pages of this journal. Our correspondent inquires, "Has the Acetate of Lead been tried on the present occasion, and if so with what success?"

Queen's College, Birmingham.—The paper has been received, and shall have our attention.

Messrs. W. and S.—We regret that want of space prevents our insertion of the legal opinion this week. It is of the greatest importance to the profession, and shall receive insertion with comments in the following number.

Communications have been received from the following gentlemen:—Dr. Thomas Williams, Swansea; Mr. Joseph Swan; Dr. J. N. Heale; Mr. George Roper; Mr. George Harvey; and Mr. Alfred Eccles. These papers will have early insertion.

Mr. Swayne's second letter has been received, and the correction made as requested.

Mr. R. H. Meade.—We shall have great pleasure in inserting the Clinical Observations, as also any other Reports in continuation which may be forwarded.

Dr. S. Thomson, Radcliffe.—A copy of December 3, 1847, has been sent.

Sir J. Murray.—No book in reference to the subject has reached us.

We regret that we have been obliged to postpone until next week our report from the Chichester Infirmary.

Dr. Bellingham.—A private letter will be sent.

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Sarah Wray, æt. 31, admitted under Dr. Williams, April 24, 1845.

Case. — *Albuminuria — Irregular Menstruation—Enlargement of Spleen.*

The history obtained from the patient herself.

This patient is of a very short stature and deformed, about four feet high: moderately stout conformation. Temperament melancholic. There is a ricketty distortion of her left leg. The complexion is dark, sallow, and unhealthy, of a greenish yellow tinge. Dark hair and dark eyes. By occupation a shoe-binder for the last eleven years, without interruption. Accustomed to take for the last two months about Oss. porter daily, but prior to this she did not take any, chiefly drinking tea. She has occasionally taken about one third of a quartern of gin in the day. Always had sufficient to eat, but from a natural dislike to meat has not taken it more than twice a week; her principal food being bread, butter, and tea. Took very little sugar. Always warmly clad. Sleeps well in health. Since last July she has been very low-spirited and cast-down; prior to this she was of a cheerful disposition. Has resided at No. 37, Saville Street, Foley Place, for the last six years next October. It is a dry and open situation. Has lived all her life in London.

Hereditary predisposition.—Her father died at 66. He was found dead in his bed one morning. Her mother died at 70, of cancer of the breast. One sister suffers much from headache and nausea. One brother has disease of the heart and asthma. Her other brothers and sisters are healthy.

Habitual state of health.—She herself, up to five years ago, was perfectly healthy, and she believes quite straight and well formed; but after this she became very weak, and has continued so ever since, being particularly liable to what she calls sick headaches. These have become very severe since she attained her 16th year. She has also been very liable to coughs. When about 15 years old, after having attended her sister, who was sick with scarlet fever, on getting up one morning she found that the whole of her body, face, legs, arms, and abdomen, equally, were very much swelled. She herself was not aware that she had had scarlet fever at the time, having had no eruption, pyrexia, or sore throat, nor any other disagreeable symptoms that would lead her to suppose she had caught the scarlet fever. Her sister, however, says she remembers quite well having heard her complain of *sore throat* at the time. She is not aware that she caught cold at the time, nor had her urine prior to the setting in of the dropsy been more scanty in quantity than usual. She consulted some medical man at a dispensary, who gave her some medicines which soon removed the dropsy, but she does not remember the exact time in which the cure was effected. She never, however, felt to say well from this time till the period when her catamenia appeared, which event did not occur till she was twenty years and two months old. She cannot exactly remember what were her symptoms during this interval. She suffered much from the sick headaches, and they occurred more frequently, and were more severe. She was highly nervous. There was pain across the loins, and continued leucorrhœa, sometimes very copious. As soon, however, as the catamenia occurred, these symptoms all disappeared, except the leucorrhœa, though this was much less copious, and she felt quite well. She continued to menstruate regularly, both as regarded quantity and quality, till about six years ago, when during one of her catamenial periods she was frightened from some cause. She did not notice that the catamenia was then immediately stopped, but at the next period it did not recur. From this time she began to grow paler and weaker, and lame, and she consequently became an out-door patient to the Middlesex Hospital, and continued under treatment there for about twenty-one months, but in no way improved. After this she attended at the Gerrard Street Dispensary, where she continued for about sixteen months, and got no better. She was then put under the care of Dr. Roe, of Hanover Square, and under his management the catamenia returned in about three months, and continued regular up to last July. About two years ago she had *rheumatism* in both her hands, which recurred off and on for about one month, when it entirely disappeared. She continued pretty well up to last July. She became at this time a patient under Mr. Liston's care, for a tumor in her neck, to which a lotion was applied, and for which she took medicines without effect. This tumor had existed upon her since she was twelve years old. She is not aware that she caught cold at that time; but the catamenia again suddenly ceased, and she is therefore inclined to attribute their cessation to the treatment employed for this tumor. She has not been liable to piles; never had hæmoptysis before the present attack.

Present attack.—About three months ago she had a very violent cold and cough, and a feeling as if cold water was running down her back, followed by rigors, heat, and perspirations. About a week from this time she experienced a disagreeable feeling of heat and tingling over her legs and arms, which persisted for ten days. A very trifling amount of swelling succeeded in these parts. The urine was very scanty in quantity, and there was severe pain across the loins. With this the cough became more severe, especially at night, so as to prevent her sleeping. Last Monday fortnight she was admitted as an out-patient, under Dr. Walshe. She had at this time slight hæmoptysis, the blood being of a florid and red colour. There was stiffness and pain in the extremities, increased by walking.

She was ordered, April 14, Empl. Lyttæ. sterno. ℞. Vin. Ipecac. ℥v.; Tinct. Camph. Co. ℥xv.; Digitalis, ℥iv.; Liquor. Ammon. Acet. ℥j.; Aquæ Puræ, ℥j. ter die.

On the 18th she was no better. Her legs and face began to swell about a week ago, and there were rigors, nausea, and occasional vomiting, with pain at the epigastrium, increased on coughing. Ordered—Antim. Tart. gr. ij.; Aquæ Cinnamomi, ℥vj. coch. amp. ij. 6ta quaque hora. noct.

Not being any better on the 24th, she was admitted as an in-patient under Dr. Williams.

Present state. — No rigors; skin hot; perspires a good deal at night. No general pains, but a general feeling of weakness and lassitude; very restless, especially at night. The colour of the skin is pale, of a greenish-yellow tinge. The temperature is 95° Fah. There is no eruption or increased cutaneous sensibility. She is thinner than formerly, but to no great degree. Does not prefer to lie in any particular position. Legs much swollen and œdematous, but pale. The head feels generally confused, and she is occasionally giddy, but there is no actual headache except when she coughs: no delirium. The expression of the countenance is anxious. The face *swollen*, especially the right cheek; aspect chlorotic. Lips pale. The eyesight is somewhat dim, but it is not more so when she sits up. The other senses are not affected. There is some pain across the loins, and a feeling of weakness there when she is in the erect position.

Thoracic organs. —She generally has shortness of breath. Respirations twenty in a minute. Much cough, especially at night; the coughing fit lasting sometimes for two or three hours, so much so that she has sometimes feared she would choke. She is sometimes hoarse, and speaks with more difficulty than usual. She has a feeling of tightness across the throat when she coughs. The expectoration is scanty, chiefly catarrhal mucus; occasionally frothy. There is dulness on percussion in the upper part of the right lung. There is also muco-crepitation at the lower part of both lungs posteriorly, especially in the right lung. The breath sound is tubular in the right scapular region. Pulse 100. Occasional palpitations, but no pain at the heart. The gums on the left side of the mouth are sore. Appetite is bad; rather thirsty; occasional nausea and vomiting.

Abdominal organs. — The abdomen is much enlarged, chiefly tympanitic; no pain on pressure; the bowels are rather constipated. The liver does not reach above the margin of the fourth rib, nor lower than the margin of the ribs inferiorly. The spleen is distinctly enlarged, and resistant to the feel, reaching nearly to the umbilicus, and tender on deep pressure. There is a feeling of weight at this part when she walks. There is no splenic souffle to be heard. There is a strong pulsation like that of a dilated artery to the left of the umbilicus, but not extending to the right. It is below the situation of the enlarged spleen, and can be traced along the course of the descending aorta.

She makes very little water, not more than Oss. in the twenty-four hours. It is of a light colour, with a white precipitate. Both kidneys are tender on deep pressure, especially the right. The urine is also albuminous, to one-third the quantity tested.

The catamenia first appeared when she was twenty years and two months old. Since this period she has been very irregular, as before stated. When she has, however, been so for a limited period, it recurred every twenty-eight days. It has been usually deficient in quantity, but apparently natural as to quality. Has almost continually upon her a copious leucorrhœa. The catamenia has recurred for the last two months. It last appeared on the 8th, and then only lasted two days.

There is at present a tumor about the size of a pigeon's egg in the right anterior triangle of the neck, which she states first made its appearance when she was twelve years old. It seems to have enlarged since the present cough. A slight pulsation is felt at the inner side of it. It is hard, but its boundaries are not well defined. When the stethoscope is applied to it, a slight bruit is heard in it, which is synchronous with the heart's systole.

Supposed exciting cause.—She herself is not aware of any, though she is inclined to attribute her present illness to the medicines taken for this tumor in July last.

Treatment.—Empl. Lyttæ magnum inter scapulas. ℞. Pulv. Scillæ, gr. j.; Pulv. Digitalis, gr. ss.; Ext. Conii, Potass. Iodidi, aa. gr. ij. Ft pil. ter die s. Middle diet.

April 26th.—The spleen is not tender to-

day on deep pressure. The strong pulsation persists. There is more tympanitic distension. The cough is not relieved. Both kidneys continue tender.—℞ Secundo quaque mane sumend—Potass. Bitart. ʒvj. ex Aqua Menth. pip.

28th.—Much the same. The powder has purged her a good deal. Yesterday she sat up a little, and has since felt some pain in the loins. The spleen is much diminished in size, being neither so prominent nor so hard as before. The pulsation is quite as strong. There is slight tenderness at the kidney. The urine has a specific gravity of 1020; acid. In quantity about Oʒ in the twenty-four hours.

30th.—The powder continues to operate a good deal. Complains of a good deal of pain across the loins when she sits up. The abdomen is much diminished in size. There is still some amount of tenderness in the region of the spleen. The pulsation is still felt. Makes water freely, about Oj. in the twenty-four hours; sp. 1016, pale, with some phosphatic excess, but only a trace of albumen.

May 1st.—Complains of weakness. There is no tenderness in abdomen; in other respects the symptoms are as before. Tongue quite clean. Pulse 104, small. The legs are no longer swelled. To-day is the day for the re-appearance of the catamenia, but there is no sign of it. The urine passed to-day amounts to about Oss.; sp. gr. 1020. There is a slight precipitate of albumen when tested with heat and nitric acid, some excess of phosphates, but not of urea.—℞. Infus. Calumbæ, ʒj.; Tinct. Digitalis, ℥xv.; Tinct. Hyoscyami, ℥xx.; Mist. Acaciæ, ʒj.; Potass. Iodidi, gr. ij.; Aquæ Menthæ, ʒiij. ter die.

3rd.—She sleeps very well, but is rather thirsty. The pulse 100, small. The swelling of the legs has quite disappeared. The liver does not reach below the ribs. The splenic tumor is distinctly smaller than it was, but still reaches two inches below the margin of the ribs. There is not so much feeling of weight under the left side as there was. There is no tenderness of the spleen on deep pressure. The pulsation is still felt, though it is not so strong. The bowels open three times to-day. Urine scanty; sp. gr. 1017, slightly acid. A deficiency of phosphates; no albumen.

6th.—She slept very well last night, but this morning does not feel quite so well. She had a slight headache when she got up, but none now; pulse 72, soft; tongue clean; bowels open twice. She has considerable nausea to-day. The pain in the side, however, is better. The spleen is soft, and quite under the margin of the ribs. There is considerable pain across the loins, and the kidneys are tender on deep pressure; the pulsation is rather stronger than it was. The legs are rather tender when she sits up. Has passed Oiss. of urine, sp. gr. 1011, very acid, with a mucous flocculent deposit, and a deficiency of phosphates.—℞ Adde haustui Acidi Hydrocyan. dil. ℥v.; Repet. Empl. Lyttæ lumbis.

8th.—She slept badly last night, as the blister which rose very well greatly disturbed her. The kidney is still tender on pressure, but she has no pain in the loins except when she sits up. Appetite is better; pulse 108, full, but compressible. Has made about Oiss. of urine in the 24 hours: it is very acid, contains no albumen, sp. gr. 1017.—To have *full diet.*

10th.—The right kidney is still slightly tender on deep pressure. She had rather more pain across the loins than before. There is also headache, but it is intermittent in kind, and was more severe this morning than it is at present; pulse 104, full, and soft. There is some feeling of heaviness on the right side to-day, which she feels especially after taking her food. The urine is clear, acid, sp. gr. 1012; no albumen.

13th.—Complains mostly to-day of pain in the right side under the margin of the ribs, which is increased on deep pressure, and also if she walks or moves about. The cough is not quite so well, and she slept but indifferently last night in consequence of it. Her bowels are open twice a day. There is still very considerable pain across the loins, and also over the kidneys on deep pressure. The urine is very acid and clear, sp. gr. 1025, containing some excess of phosphates, but no albumen.—C. C. ad ʒviij. lumbis.

14th.—The cough is better, and the pain in the right side is not so great, but persists. The pain in the loins, however, is no better since the cupping. The blood taken is but slightly contracted, of a dark colour, and not buffed; the serum of a dirty colour. She does not feel weaker since the loss of blood; pulse 124, rather weak and compressible. The bowels are open twice a day. No headache; appetite good; slept very well last night. Has made about Oiss. of water, sp. gr. 1019, acid, and contains no albumen.

17th.—She does not feel so well to-day. She went out yesterday, and was much fatigued by the exertion. She coughs more. The pain in the loins is no better; and the leucorrhœal discharge is much increased in quantity. There is also more tenderness about the spleen, and this morning there was a very severe sharp cutting pain in it, which has since disappeared. The pain in the right kidney is less marked; tongue clean; pulse 100, very compressible; skin very moist; the bowels are open twice a day. There is no difficulty in making water. Has made little more than Oj. of water in the

last twenty-four hours; sp. gr. 1020, acid, pale, and clear; no albumen.—℞ Ext. Belladonnæ, gr. j.; Ext. Col. Co. gr. iv. Fiat pil. o. n. s.

19th.—She slept pretty well last night. The pains are less severe to-day, but her cough continues very troublesome. The vaginal discharge is increased in quantity, but it is mucous in kind. It has not been bloody at any time, nor are there any bearing down pains. Her face is looking better, and she thinks she is getting stronger; pulse 100. Has made about Oj. of urine in the last twenty-four hours; sp. gr. 1010.

20th.—The cough continues to be very troublesome. The expectoration is purely catarrhal. There is considerable pain in the right kidney to-day; the spleen also extends below the ribs, and is tender on pressure. There is also some tenderness in the left kidney, especially when felt from behind; pulse 122, small, and weak; tongue clean; has made about Ojss. of urine, sp. gr. 1017, with a distinct trace of albumen.

21st.—The spleen reaches full two and a half inches below the margin of the ribs; it is also hard and resisting. In front there is dulness on percussion superiorly beneath the left clavicle towards the external side as compared with the right. Over the mammary region the reverse is the case. The dulness above the left clavicle is also greater than above the right, and the difference is more marked than below the clavicle. The respiration is not heard in front beneath the left clavicle; puerile under the right, almost bronchial. Behind, the dulness is greatest in the right supra-spinous fossa, and the respiration is also bronchial in it; it is very weak, almost deficient, in the left supra-spinous fossa; pulse 120, weak. There is a murmur with the first sound at the base of the heart, heard also at the top of the sternum, and in the neck. Has made Ojss. of urine, sp. gr. 1016, acid, clear; no albumen.

23d.—She says she feels better in herself, but her cough is very troublesome, especially at night. She has had since yesterday again pain across the loins, of a shooting character. There is no headache. Perspires a good deal more during the day than at night. Her eyes are dazzled, and, indeed, have been so, more or less, all the week, but to-day she cannot see to work. The pupils are much dilated. There are some nervous tremors in the extremities; the voice is also tremulous. Oj¼. of urine, sp. gr. 1020, with a trace of albumen.

26th.—She thinks she has felt a little better the last day or two, but there is no very manifest improvement. The cough is perhaps less troublesome. The upper part of the right lung posteriorly is duller than the left. The same is observed on percussion on the side of the spine, and over the infra-spinous fossa, only to a less degree. There is weakness of the respiration on both sides, and the vesicular murmur is scarcely heard on the right side, where the expiration is nearly as loud as the inspiration. In front, the dulness is greatest on the left side; the respiration is weak here also. The vesicular murmur is scarcely heard on the left. The respiration puerile on the right side in front; pulse 126, weak and tremulous; the tongue is clean but pale; no headache; eyesight no better; feels often very sick, especially after taking food, and after eating experiences a feeling of weight at the stomach, but she has not observed any difference when she takes warm or cold drinks. There is no tenderness on the right side. On the left side, however, and across the loins, it is much worse than it has been since her admission in the hospital. The splenic tumor may be felt to extend at least one and a half inches below the margin of the ribs; it is resisting, and round to the feel, and tender on deep pressure. Both kidneys, especially the right, appear hard, and tender on deep pressure. The catamenia has not yet appeared. The leucorrhœa persists; the discharge is white, with a yellow cast in it. She does not make more urine. She complains generally of weakness. The aspect of the countenance is less sallow and pale than it was on her admission, but still has an unhealthy chlorotic tinge.

Discharged.

Remarks.—This case is interesting, as exemplifying the low vitality, and inefficacy of treatment usually observed in patients affected with chronic albuminuria.

Diagnosis.—1. It was evident that this patient was affected with dropsy, and that dropsy dependent on the presence of Bright's disease of the kidney.

1. The aspect of the patient was pale and sallow: here, however, there was some source of fallacy, as the patient was also affected with chlorosis.

2. The face itself was early affected in the disease.

3. The dropsy had come on with general pyrexia, which could not have been due to the chlorosis present.

4. There was deep-seated pain in the lumbar region, and the kidneys were also tender on pressure.

5. The previous history of the case was such as favoured this view. She had had scarlatina faucium, and febrile dropsy had followed upon it. In all cases of febrile dropsy occurring after scarlet fever the dropsy is *renal*; and we know one attack of albuminuria predisposes to a second.

6. The urine was scanty, and though at first the quantity was insufficient to allow the specific gravity to be taken, still it was

albuminous, (one-third the quantity tested). Taken in connexion with the other symptoms observed, it tended to confirm the renal character of the dropsy.

II. There was bronchitis, as manifested by the cough, frothy expectoration, and muco-crepitation at the lower part of both lungs, behind, and the pyrexia present.

In addition, however, there was some consolidation of the upper lobe of the right lung behind. This was indicated by the dulness on percussion, and tubular breath-sound. But the question arose, what was the cause of this consolidation? Four possible explanations presented themselves. Former pneumonia, which had left some previous consolidation behind; recent pneumonia; cancer; or tubercle.

There was nothing in the previous history of the case with which this could be connected. No prior pneumonia had existed.

There were, however, some grounds for supposing it to arise from recent pneumonia. There was cough, and general fever, and there had been hæmoptysis; but there was no pain in the chest, dyspnœa at all marked, or rusty expectoration, nor any trace of fine crepitation, intermixed with the tubular breath-sound. Moreover, pneumonia in the upper lobes is rare after puberty, and all the symptoms present could be accounted for by the presence of tubercle; so that, *à priori*, there was no positive sign of the existence of pneumonia, and the slight degree of pyrexia might be due to the bronchitis.

But there were some reasons to believe it might also be cancerous in kind; namely, her sallow cachectic complexion, the hæmoptysis, and the hereditary predisposition on the mother's side, countenanced this supposition.

Thus, while in the present stage of the disease it was impossible to state positively if pneumonia, in its second stage, or cancer, existed, still it was far more probable to be merely tubercles, for—

1. She had lately lost flesh, though certainly not to a very great degree. 2. The hæmoptysis had appeared in connexion with the cough, nor was there any disease of the heart to account for it. This symptom, though occasionally present in pneumonic cancer, is still far more commonly observed in tubercles. 3. She sweated a good deal at night. 4. Although she did not appear to be predisposed to the disease, still we know that bad living, hard work, and mental anxiety, may induce the disease, even when no hereditary predisposition exists; and lastly, we have evidence that there was defective nutrition in this patient, from the retention of excrementitious matters in the blood, either by reason of the complication of Bright's disease, or the insufficient menstruation. In such cases tubercle is very likely to be deposited.

III. There was anæmia and chlorosis present; some of the anæmia, it is true, might depend on Bright's disease, but the chlorotic *tinge*, and the amenorrhœa that had so long existed, and now imperfect menstruation, had no doubt caused much of it also.

IV. The spleen was much enlarged. The greater amount of dulness on percussion in the left hypochondrium, the consistence of a large tumor that could be felt in this position, with the pulsation, proved this beyond a doubt.

V. There was also copious leucorrhœa. Although she had the hereditary disposition to cancer, still, as the discharge was purely mucous in kind, and in no way offensive, the probability was that it was not cancerous. As no examination was made, however, it is not possible to state positively whether cancer in the womb, in its first stage, existed or not.

Causes.—1. Of the albuminuria. *a.* As has been already stated, the original attack of renal dropsy, which, though removed by treatment, left general ill health behind, which was probably kept up by latent renal disease.

b. Albuminuria sometimes results from suppressed menstruation. Any cause which tends to produce congestion in weak organs will predispose to the formation of cacoplastic deposits. That such congestion existed on the abdominal organs was evidenced by the splenic and hepatic engorgement.

c. Defective nutrition, taken in connexion with the other causes which would render the blood impure, also would have predisposed her to renal disease.

d. The other causes which occasionally give rise to albuminuria could scarcely have done so in the present case.

It is sometimes induced by particular kinds of food, by certain remedies, or a blister. In the present case, however, there was no evidence of this: calomel had not been given, and though a blister had been applied, it had been applied ten days prior to her admission, at which time any effect from the blister would have been removed.

Again, according to Fourcault, it may result from the imperfect or checked action of the skin, and especially from the retention of lactic acid in the blood; but here the action of the skin was quite perfect. Indeed, the present case is a good example to show that the function of the perspiratory glands may be intact, and yet the patient labour under Bright's disease of the kidney.

Then, again, there was no reason to believe she was a drunkard. It is true she had occasionally taken gin, as most persons in her station of life do, but never immoderately.

Again, there was no evidence of cardiac disease, which by some has been put down as a cause of albuminuria. The murmur with the first sound of the heart was due to the anæmia present.

Lastly, it could not be due to any admixture of pus from the leucorrhœa. There was no reason to believe it was otherwise than mucous in kind: besides, the discharge persisted to the end, and the urine was only occasionally albuminous.

II. *Of the splenic congestion and chlorosis.*—The latter was of course produced by the inaction of the uterus. The former was probably due to the same cause. Suppressed menstruation is, perhaps, the most common cause of enlargement of the spleen. Whether there was any chronic inflammation going on in it, and contributing to this enlargement, was doubtful. There was pain in the organ. This might be due to inflammation, or mere tension. One circumstance opposed to the existence of inflammation was, that it had quickly diminished in size at first. On the other hand, were it mere congestion, we should expect to find the liver more enlarged than it was in this case. This apparent objection might be explained by the supposition that the liver was also the seat of some cacoplastic deposits, which prevented much engorgement.

III. *Predisposing causes:—Of the bronchitis.*—If tubercles existed, these would predispose to the occurrence of bronchitis. 2. The irritating quality of the blood, by the retention of excrementitious matter, might predispose her to bronchitis. It is a question, however, how far this was not the exciting cause.

Exciting Causes:—Of the bronchitis.—There was no evidence to suppose it was cold. No such influence could be traced on careful inquiry. Indeed, so convinced was the patient of this, she attributed it to the treatment adopted for the tumor in her neck. That which appears the most probable was the impurity of the blood from the retention of excrementitious matters, especially *urea*. Dr. Garrod has on several occasions detected the presence of this substance in the blood where Bright's disease of the kidney existed. In three cases we ourselves have detected this substance. Exposure to cold will, by producing congestion of the internal organs, increase the defective excretion of this substance, and thus, by the particularly irritating properties of the blood, cause inflammation in the weaker organs. But this superadded exposure to cold is not necessary. The impure blood may be sufficient to produce these internal congestions and inflammation, as detailed in the case of Crouch.

II. *Of the dropsy.*—Toxæmia of the blood may exist without dropsy. Moreover, old chronic cases of albuminuria frequently terminate with little or no dropsy. Coma, according to Dr. Christison, is, with or without convulsion, the natural termination of the disease. It is a statement made by Dr. J. Taylor, that the exciting cause of dropsy is more frequently some affection of the lungs. We have ourselves verified the accuracy of this statement from repeated observation. The renal disease predisposes to the occurrence of dropsy, but it requires some additional exciting cause, and that generally is an affection of the lungs, to determine the dropsy. In this case anæmia, it is true, also existed, and this would in addition, by the thin character of the blood, predispose the patient to dropsy.

Thus all the symptoms in this case may be explained by the state of the kidney; and the case was so regarded by Dr. Williams. The case was considered to be one mainly of albuminuria guiding the other symptoms—the ill health and pallidity chiefly due to it. It was not expected that the disease could be cured, but the object was to palliate the other symptoms by reference to, and acting chiefly on, the kidneys. As these were painful also, there was probably superadded congestion of these organs.

Treatment and progress was founded on this view of the case. At first it was sought to relieve the bronchitis by a blister, but a mixture was ordered not only expectorant but also diuretic. On the 26th April, the bitartrate of potash was ordered. Under this treatment she got better, the medicine probably aiding the natural tendency usually observed in such cases, when the "vis medicatrix naturæ" brings about a critical diarrhœa. On the 1st of May a more tonic diuretic mixture was ordered. On the 6th and 7th the anasarca had disappeared; the spleen was quite under the ribs; and the urine was increased in quantity. The specific gravity of the urine was not only high, but the quantity excreted had considerably increased. Still no cure was effected. The kidneys continued painful. A blister, and subsequently cupping to the loins, was ordered; but without any benefit resulting. On the 17th she went out, and, whether owing to indiscretion or the noxious influence of the cold, she got worse from this time. The splenic congestion returned, as well as the bronchitis. She finally left the hospital scarcely relieved; the dropsy, it is true, had disappeared, and the cough was not so troublesome, but impaired health continued. The reason was obvious: the blood retaining excrementitious matters, was tainted in quality and kind, and incapable of maintaining a healthy amount of vitality.

The specific gravity of the urine throughout this case, it should be remarked, was

higher than usual in Bright's disease, but the real quantity secreted was probably much less than what is stated. At no one time was more than six or eight ounces saved; and the amount stated to have been passed on different occasions was estimated only from her own report. There can be no doubt, however, that the absolute quantity passed was much less than normal, and consequently that much excrementitious matter was retained in the blood.

The *prognosis* as to the termination of this case is bad. By care it may be delayed, but the presence of Bright's disease in the kidney, of tubercles probably in the lungs, and her general weak and debilitated state of health, are all considerations which make a fatal result, at no distant period, highly probable.

CAUSE OF THE DEGRADATION OF MEDICINE.

The great majority of persons who intend to practise medicine prefer the shortest, cheapest, and least troublesome education which public opinion tolerates for medical students. They reason naturally enough, that a public which so eagerly patronizes every form of quackery will not be quick to ask for their credentials, or enlightened enough to detect their ignorance. But it is clear that without medical colleges in which the student can obtain nothing but his diploma and the marrowless dry bones of science, the line between quackery and medicine would be more distinctly visible than at present, even to vulgar eyes. Yet so long as such nuisances exist, the profession will present a gradual transition from one end to the other of the scale—from the learned, enlightened, and skilful physician, down through successive grades of pretenders and puffers of themselves. It will continue to include men who resort to indelicate means of introducing themselves into practice; men who pursue their profession, but have no faith in it; renegade physicians who have embraced the heresies of the day; those who practice "allopathy," "homœopathy," or "sudopathy," just as the patient prefers; and in the lowest deep of all, the vile traffickers in human life, with their panaceas, their blood pills, and lying certificates from the great and little vulgar they have victimized. In this *facilis descensus averni*, no one can say where physicians end and quacks begin; nor will it be possible to do so until the medical profession, making for itself that law which is necessary for its self-preservation, shall shut the doors of the pest-house which generates this swarming plague, and set upon them the seal of perpetual reprobation.—*American Journal of the Medical Sciences.*

Original Communications.

CASE OF WOUND OF THE RADIAL ARTERY—SECONDARY HÆMORRHAGE FROM THE WOUND—LIGATURE OF THE BRACHIAL ARTERY.

WITH OBSERVATIONS ON THE CASE.

By H. Burford Norman, F.R.C.S.
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(*Read before the Royal Medical and Chirurgical Society.*)

J. H., a healthy lad, æt. 13 years, accidentally thrust his left hand through a pane of a window, on the 4th of March, 1848, by which he received an irregular wound on the fore part of the arm, about one inch above the wrist, which extended from the radial towards the ulnar border of the limb. The wound bled at the time in a profuse stream, according to the report of his friends. He was taken in great haste to a neighbouring apothecary's shop, where some temporary means of arresting the hæmorrhage was used; and from thence he was hurried to the Western Dispensary, with the assurance that his life was in danger from the bleeding. There the resident medical officer applied compresses over the wound, and secured them with a roller passed tightly round the limb, from the hand upwards. In the evening of the same day the arm was so tense and painful that Mr. Preston, the usual attendant of the lad's family, was sent for. On his arrival, Mr. Preston removed the dressings, and finding no return of hæmorrhage reapplied them, but not so tightly as before. From that time forward the patient attended at Mr. Preston's house every day for a fortnight: there was no return of hæmorrhage, and the wound was said to be healing. But about that time Mr. Preston was summoned suddenly to see the patient at home, in consequence of a recurrence of bleeding so rapid and profuse that the blood quickly passed through the dressings, and a pint or more was computed to have been lost in a few moments; before his arrival,

however, the bleeding had ceased, on the patient's becoming faint. A few days after (March 26th) there was a second attack of bleeding to a considerable extent, which again stopped on the supervention of syncope. The wound had now ceased to heal, and the surrounding integuments were swollen and inflamed. Compresses and bandage were still applied, and the inflamed part was further treated with hot fomentations, as suppuration was supposed to be going on.

On the first of April, just a month after the accident, there was so much heat, redness, and swelling around the wound, accompanied by painful throbbing, that Mr. Preston made a puncture in the centre of the inflamed structures, but without evacuating any pus, and a bread and water poultice was applied. In the course of that day a third attack of bleeding took place, on which account the poultice was given up, and compress and roller again had recourse to.

On Sunday afternoon, April 2nd, hæmorrhage recurred *a fourth time*, and to a considerable extent, ceasing as before on the patient's becoming faint. On this occasion I was sent for by Mr. Preston's desire, he having on the same morning given me the preceding account of the case. Being absent from home, I did not see the patient for some hours. On my arrival, I found him in bed, with his left arm encased in a roller, and raised high on a pillow. He was pale, and the expression of his countenance was somewhat anxious. His tongue was dry, his skin hot, and his pulse 120, rather hard and jerking. I was accompanied by my friend Mr. Hillman, expecting that an operation might be found necessary. On removing the dressings from the arm, the integuments on the fore part of the limb, for about two inches above the wrist, were seen to be of a deep red colour, and much swollen; there was also much heat, pain, and tenderness of the part. Over the radius, about an inch above the wrist, was a sloughing papilliform opening (the remains of the original wound), filled with dark softened coagulum. From this opening the bleeding had taken place. At about the centre of the inflamed tissues was the puncture made by Mr. Preston the day before; its edges clean, not adherent, nor much separated, and from it oozed a little clear serum only. There was no fluctuation, but the inflamed tissues had a boggy feel. It was decided not to make an opening then. Compresses were applied on, above, and below the sloughing wound in the course of the radial artery, and secured by a tightly rolled bandage. The limb was raised on pillows, and he was ordered to take nothing but ice and oranges.

3.—Night has passed very restlessly. No return of the hæmorrhage. Arm became so painful in the evening that the dressings had to be loosened. Much tenderness this morning up the arm in the course of the brachial artery. Pulse 140, hard and bounding; skin very hot and dry; tongue dry, covered with thick white fur; bowels not opened for two days.

Appearances of arm much worse; papilla over the radial artery much raised and enlarged; bloody pus and sloughs escaping from it; near it another foul opening, formed by sloughing of the integuments during the night, and similar discharge from it. The integument around of a deeper red or dusky hue, swollen, tense, elastic, and boggy, and partly covered by shrivelled cuticle, the remains of vesicles that had formed, and burst during the night.

Strong pulsations, synchronous with the arterial pulse, felt distinctly over all this part of the arm, as are those of an aneurism over every part of its circumference.

With a probe-pointed bistoury passed into the papilliform opening formed during the night, I divided the inflamed tissues upwards to their whole extent, and let out a great quantity of pus, coagulum, and sloughs. The skin was much undermined, and the subcutaneous cellular tissue thickened, engorged, and nearly ready to slough. Pulsation was no longer felt (after the incision), except on the radial side of the wound in the course of the artery. A bread and water poultice, nearly cold, was then applied, and secured by a bandage lightly rolled round the arm from the hand upwards, and a small compress, formed of the head of a narrow roller, was fastened by another roller with moderate pressure on the brachial artery a little above the elbow. A brisk purgative of calomel and jalap was prescribed, and for diet cold bread and milk, ice, and oranges.

4 P.M.—Bowels have been freely opened. Pulse fallen to 130, much softer, skin perspiring, tongue much less dry. The incision made this morning, and the remains of the original wound, have coalesced; free purulent discharge; pulsation of radial artery felt down to the wound.

Continue the cold poultice and diet prescribed in the morning.

4th, 9 A.M.—Has passed a quiet night; very little pain of fore-arm; much tenderness in the upper arm, in the course of the brachial vessels; pulse 108, soft, and regular; tongue clean; appetite good; skin moist and cool. Wound secreting freely nearly pure pus; surrounding redness and swelling subsiding rapidly. Poultice and roller as before. Compress removed from brachial artery in consequence of the pain and tenderness there felt.

1 P.M.—Sudden and rapid bleeding; considerable loss of blood; complete syncope and cessation of hæmorrhage. Mr. Preston being out of the way, I was sent for, and on my arrival found the patient rallying, but excessively pale, with a very feeble intermittent pulse, of 140. It appeared to me that something ought to be done without delay, to prevent another such occurrence, which might prove serious; and as Mr. Hillman had previously seen the case with me, I asked his attendance again. Mr. Preston also attended, and it was decided that a ligature should be applied upon the brachial artery. At a quarter before 3 P.M. the operation was performed in the presence of Mr. Hillman, Mr. Preston, and Messrs. Moat, T. Brown, and H. Day, and with their kind assistance. The patient was put under the influence of chloroform to just that extent in which, though sensible of all that was done, and watching everything, he had scarcely any consciousness of pain. Before the ligature was secured, it was found that pressure on the artery, as it was held upon the aneurism needle, quite obliterated the pulsations in the radial artery; it was therefore tied, and the wound was put together with one point of suture, and a few strips of isinglass plaster. A cold poultice was applied to the fore-arm as before, and the whole limb was enveloped in cotton wool, and a roller moderately applied. The patient was returned to his bed, and the arm raised on pillows; he was enjoined to observe perfect quietude, and to continue the bread and milk diet, with ice. Twenty minims of laudanum were administered in a draught.

7 P.M.—Has not slept: is quite easy; a little excited and talkative; pulse 140, soft; tongue dry and furred; wound of fore-arm suppurating healthily; no pulsation in the radial artery; hand warm and comfortable. Continue same treatment.

5th, 9 A.M.—Has slept but little, and talked somewhat incoherently in the night, but has been easy in the arm. Manner now calm; pulse 140, soft; skin rather dry; tongue dry and furred; bowels confined; some pain in abdomen; much tenderness in axilla, and between it and the ligature; wound of upper arm discharging a little bloody serum; some swelling and tenderness around. That above the wrist opened out, secreting abundance of pus slightly tinged with blood; integuments at its upper margin mottled, of livid colour, hard, and undermined with pus. Fore-arm and hand warm; sensation natural; no pulsation between ligature and wrist, nor at wrist.

To take ʒss. of Pulv. Jalap. Co. immediately, and saline mixture every four hours. Same diet and local treatment. To be moved on to the sofa for an hour or two for change.

6th.—Has been very restless in the night, frequently awaking with the feeling that ice and snow were being thrown upon his arm. Now quite composed. Bowels freely opened last night and this morning; tongue cleaning at tip and edges; furred and white posteriorly; pulse 128, compressible. More swelling about wound of upper arm, and increased tenderness from it to axilla; axillary glands inflamed and hard. Edges of wound uniting at upper angle: a little suppuration at lower. Wound at wrist becoming clean; discharges nearly pure pus, scarcely at all discoloured. Swelling, discolouration, and hardness of surrounding integuments, nearly gone; edges of sore becoming thin; temperature and sensation of fore-arm *feel* natural.

Removed straps and suture from upper wound, and dressed it with a single strip of isinglass plaster applied lengthwise with the axis of the limb. Cold poultice to lower wound. Continue saline mixture. Beef-tea for diet.

7th. — General health improving; still restless at night from a constant sensation in the operated arm of being bitten by a multitude of fleas, which continually awakes him. Tenderness of axilla and swelling of upper arm nearly subsided; edges of wound slightly separated; healing by granulation; sore at wrist, quite clean, covered with healthy granulation, and rapidly contracting at its margins. Temperature of sound arm and hand 95° Fahr.; of operated limb barely 93° Fahr. Same dressings as before. Omit saline medicine. Mutton chop for dinner.

8th.—Pulse fallen to 120, soft, and weak; tongue nearly clean; bowels acting well. Took fish for dinner yesterday instead of meat ordered. So much disturbed by supposed flea-bites during last night that he could not be satisfied till his arm was uncovered in search of his imaginary enemies, which were not to be found. Both wounds granulating actively, and contracting. Water dressing to be applied. To take some meat with a little sherry and water to dinner.

11th. — Has been suffering from headache and costiveness, requiring aperient medicine. Pulse fallen to 108; appetite good; tongue clean. *Ligature came away with the dressings* (the eighth day from its application). Both wounds steadily healing. To be dressed with Goulard's lotion. Temperature of operated arm still 2° below that of sound one.

29th.—Since last report has been much thrown back by a troublesome attack of diarrhœa, which has now ceased, and he is gaining strength. Both wounds all but cicatrized; dressed with a bit of adhesive plaster.

May 2nd.—Both wounds completely healed; pulse between 80 and 90, of a firm good character. Radial pulse felt below the site of the wound at wrist on injured side, but not between the wound and the ligature on the brachial artery. No pulse discoverable in the course of the ulnar artery.

5th.—Again carefully examined the course of the ulnar and radial arteries: no pulsation to be felt in them except as before—viz. in the radial below the site of the wound. Strong pulsations of an artery to be felt above and behind the elbow along the external condyloid ridge of the humerus, and less strong pulsation, but quite distinct, along the inner side following the course of the ulnar nerve, indicating the manner in which the collateral circulation has been carried on from above the ligature.

A similar examination of the limb with like results was made in June, when the patient had thoroughly recovered his health by a month's sojourn in the country.

Remarks.—In reviewing this case, one cannot help experiencing a feeling of regret that the wounded artery was not cut down upon, and exposed, immediately after the accident, and ligatures applied to its bleeding extremities, instead of being submitted to the influence of compression. Where a vessel so superficially situated as the radial artery is at the wrist, is wounded, it can require but little enlargement of the wound to enable the surgeon to place ligatures on the ends of the divided vessel. They are sure to arrest the immediate hæmorrhage, and afford the best security against consecutive bleeding; nor do they impede the healing of the wound. If the wound is a clean recent incision, and the vessel itself is but slightly wounded; if also the compression is applied, before extravasation of blood into the adjacent cellular membrane has occurred, with great care, nicety and precision, this means, it is true, may be effectual. Thus it happened with a case under the care of my friend Mr. Hillman, lately; in that instance, a cellarman, in drawing a cork from a bottle of wine, broke the bottle, and received a cut from a sharp edge of the broken glass across the lower and fore part of the wrist by which the radial artery was wounded; it bled very freely, but the extent to which the vessel was divided was not ascertained; the wound of the integuments was of moderate size, and quite a clean cut. The patient was seen by Mr. Hillman within two minutes after the accident: the edges of the wound were carefully put together; a graduated compress was applied upon it; the fingers, hand, and arm, were methodically bandaged, and the dressings were not moved for four days. There was no return of hæmorrhage, and the wound healed most satisfactorily. Most surgeons have, I suppose, seen a similarly successful re-

sult from this practice, and possibly it might be more frequently favourable were due care observed in the use of the means; but, as the compress and bandages are generally applied, they fail very frequently, and, indeed, however carefully employed, I believe they often will do so. Several instances of such failure in wounds both of the radial and ulnar artery have come under my notice, in which the ligature has subsequently become necessary. Under any circumstances I do not see what advantage compression possesses, except the facility of its application,—an advantage which I think dearly paid for by the uncertainty of its effect, and by its deceptiveness; for, whilst it may seem to succeed in arresting the first evil—the primary bleeding—it may, as in the case now recorded, become the occasion of future and greater evils, causing effusion of the blood, which cannot escape externally, under the fascia and amongst the tissues surrounding the wounded vessel, and eventually to give rise to inflammation, suppuration, sloughing, and secondary hæmorrhage, at a period when every fear of bleeding should have passed away, and all should have been well. With the following remark of the late Mr. Cooper, (Surg. Dict. p. 608, fifth edition), I therefore fully coincide:—"If," he says, "in bleedings from large arteries compression can ever be prudently tried, it is when these vessels lie immediately over bone. Bleedings from the radial and temporal arteries are usually cited as cases of this kind, though from the many instances of failure which I have seen happen when the first of these vessels is concerned, I should be reluctant either to advise or make the attempt."

Is the practice in secondary hæmorrhage equally clear and unequivocal? There are some, whose experience entitles their opinions to great respect and consideration, who answer—yes, in every case tie the ends of the bleeding vessel in or near the wound; they except, of course, those cases in which the vessel, from some anatomical consideration, cannot possibly be reached and tied, and they condemn as bad surgery the practice adopted in the case under consideration. Others hold a different, or at least a modified view on the point, upon which it is not my present purpose to offer an opinion. I will only remark that in the present as in *many other* instances, the means seem to have been justified by the end.

From the time the ligature was applied, there was no more bleeding, and what is more, the circulation both in the radial and the ulnar arteries was completely and permanently arrested, and has only been restored in that portion of the former vessel which was situate below the wound on the wrist. The circulation in the fore-arm appears thenceforward to have been carried on by enlargement of the anastomosing vessels, springing mutually from the brachial artery above the ligature, and the interosseous below.

The temperature of the limb, it is interesting to observe, was on the several occasions on which it was noted 2° Fah. below that of the opposite arm, and the effect of diminished activity of the arterial circulation on the nervous functions was manifested in the morbid sensations experienced by the patient: nevertheless, the progress of the wounds to a cure was not much more than ordinarily prolonged in relation to their size and the losses of blood previously experienced.

3, Duchess Street, Portland Place,
September 10th, 1849.

CASE OF ARRESTED DEVELOPMENT OF THE RIGHT FOREARM IN THE FŒTUS. BY ARCHIBALD HALL, M.D.

In February last, I was called upon to attend Mrs. F. R., then in labour, at the full period of utero-gestation. When first seen, the os uteri was but little dilated, and no presenting part could be felt. In the course of a couple of hours it became sufficiently dilated to permit the passage of the membranes, which enclosed a projecting body, the real nature of which I could not at first make out. After a little further delay, I became enabled to detect the ribs; and, although yet unable to determine with any accuracy the exact nature of the projecting body, I resolved upon the operation of turning. Having exhibited a full dose of laudanum, the operation was effected without difficulty, and a living child was born, but destitute of its right forearm.

On examination, the arrest of development commenced immediately above the condyles of the humerus, which were wanting; and the stump of the arm formed the presenting part, constituting it an arm presentation.

Cases of this description are of unfrequent occurrence; yet, although by no means unique, they are still not undeserving of record.—*Brit. Amer. Journal*, Sept. 1849.

ON SOME OF THE

MORE PRACTICAL POINTS

CONNECTED WITH THE

TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,

Assistant-Surgeon to the Royal Orthopædic Hospital.

[Continued from p. 365.]

On the General Treatment of Club-Feet.

I omitted in my last paper to refer to the condition of the plantar fascia in some of the varieties of club-feet. I believe it often is much concerned in keeping up the deformity, if not as an original cause in helping to produce it; for any shortening of so thick and strong a membrane will be quite sufficient to prevent the bones with which it is connected from being replaced in their natural position, though all the contracted muscles have been set free by the division of their tendons.

In the various forms of varus, the central strong portion of the plantar fascia is often so much shortened, that its division is essential for the cure of the deformity, owing to the shortening it causes in the long diameter of the foot, by approximating the toes (and more particularly the great toe) to the os calcis. In these cases the fascia can be felt as a distinct thickened cord. It seldom offers much resistance in infants or in very young children. I believe it does, however, sometimes, even in this very early age, act as an obstacle to the complete flattening of the arch of the foot, and if any suspicion exist of it doing so, it had better be divided. The circumstances under which it may be perceived in infants, are, that after the varus has been removed by the foot being everted and the heel brought down, the arch of the foot is found still to present an increased convexity on the instep, with a corresponding concavity in the sole, and a peculiar deep fold and wrinkle in the skin at the inner edge and under part of the foot. On making, forcibly, extension of the toes upwards in a line to elongate the foot, and pressing the finger against the central portion of the fascia, it may be felt firm and tense, though not so hard and cord-like as in cases of longer standing, and where the patients have been walking about for some time, compressing the bones against one another, and causing the fascia to be disproportionately shorter than the rest of the foot. Another portion of the fascia which I believe may sometimes be divided with advantage, is that covering the muscles of the great toe, and which passes along the inner edge of the foot. Its shortening is made evident by the great toe being more than naturally turned inwards, causing the inner edge of the foot to be concave instead of straight, and sometimes giving an inward inclination to the whole of the anterior half of the foot, forming the appearance known as "pigeon-toed." It may sometimes be overcome by long perseverance in mechanical treatment, but I should always recommend its division, as the operation is so trifling, and so much sooner removes the deformity.

In talipes calcaneus the central portion of the plantar fascia is often rigidly shortened, so preventing any power in the muscles to raise the os calcis, did such power ever return in them. The existence of this condition of fascia is explained by the paralysis of the muscles of the calf allowing the os calcis to fall downwards, when, of course, the part of the bone to which the fascia is attached is approximated to the anterior part of the foot. The fascia then remains shortened, and becomes more rigid and thickened, owing to the absence of all strain or stretching upon it. I think I have observed this shortened condition of the plantar fascia to exist more decidedly in those cases of long standing which have commenced in early childhood, rather than at a later period; the reason of which no doubt is, that the bones of the foot continue to grow to their full size, while the fascia does not, owing to the absence of the proper tension upon it which naturally exists when the foot is kept of its proper length, by the os calcis being elevated by the action of the muscles constantly drawing upon it through the tendo-achillis.

In the talipes equinus, the fascia does not become so much shortened as in either the varus or calcaneus, owing to the os calcis being kept so constantly in a state of elevation, and a consequent stretch being made upon the membrane,

which prevents any great retraction taking place. The cases in which it presents a decided obstacle are those of the severest forms of talipes equinus, when the patient walks upon the extremities of the metatarsal bones to a degree to throw the arch of the foot upwards to an extent to greatly increase its convexity, and consequently to approximate the toes to the os calcis, by which the fascia becomes shortened, and may in the course of time accommodate its length to the shortened diameter of the foot, and remain so permanently.

In congenital varus in infants, it is rare to find the fascia taking any part in the production of the deformity. I have, however, seen it in some cases prevent the foot from being brought flat upon the ground, after the inversion has been completely overcome, and the heel brought down. The increased convexity of the arch gives the foot a shortened appearance when dependent upon this cause: it may be overcome by dividing the band of fascia in the sole of the foot.

Of the treatment of club-feet.—In the treatment of club-feet, three important questions have to be decided—namely, what amount of relief can be given? what are the best means for procuring such relief? how to preserve such relief when obtained?

The amount of relief to be obtained must necessarily have reference to the nature of the deformity, there being many cases of club-feet where the shape of the foot, as well as the power of moving it, can be so far completely recovered that all deformity is removed, and the limb rendered a very useful one. On the other hand, there are other cases, where, although the deformity can be removed, the power of moving the foot cannot be given, owing to paralysis existing in the muscles, and having been the original cause of the displacement of the bones and joints. The period during which the deformity has existed will also have an influence over the result of the case, though I believe this affects rather the length of time required for the treatment, than the ultimate removal of the deformity. My own impression is, that the resistance of the ligaments and muscles could be overcome at any age, however advanced; but then, of course, the question arises, whether it is worth while to advise the treatment in a person of an age who cannot be cured except by a lengthened confinement, and who can only gain a comparative benefit for the remainder and shorter portion of his life.*

The object in view in the treatment of club-foot is to restore the foot or feet to their natural shape as much as possible, even if the power over the muscles cannot be regained; for both the comfort and facility in walking are necessarily much interfered with by the inability of placing the foot flat upon the ground. The bones being so much displaced causes an unequal and unsteady bearing, as well as throwing an unnatural strain upon the ankle-joint, and through it upon the whole leg, and other parts of the body, all of which evils may be removed, if the treatment be successful in so far restoring the foot that the person may be enabled to walk flat upon the sole, instead of upon the edge of it. Another important point is also gained, namely, the removal of an unsightly deformity, and the foot made to resemble as much as possible the natural form, a source of great comfort to the feelings of the patient, and one that may make it sufficiently worth his while to undergo the necessary treatment, if no other reason existed; for the influence exerted over the mind is acknowledged by all those who are unfortunate enough to have grown up with this affliction upon them.

The means to be employed to restore the foot to its natural shape may be in some cases purely mechanical, the resistance being so slight that the contraction readily yields to firm and continued pressure applied in the direction best suited to "untwist" the bones. As a general rule, however, mechanical means only are not sufficient: for it is now acknowledged that certain tendons must be divided in order to effect a cure, both for the perfect restoration of the shape of the foot, as well as to ensure the permanency of any benefit that may have been gained. For it has to be remembered that although

* The oldest case I have seen treated was one at the hospital, under the care of Mr. Tamplin, in a man 28 years of age: he had double varus of the most severe form. He was under treatment altogether for nearly two years: the deformity, however, was completely overcome, and he left the hospital walking flat on his feet.

the muscles may not have been the sole cause in producing the distortion originally, they have taken part in so doing, and will have become shortened, and will oppose any attempt made to move the foot in a direction contrary to their line of action, and necessarily be an obstacle to the treatment.

The division of tendons, though apparently a simple operation, requires great nicety in its performance, and in many cases a good deal of experience, both in finding the precise situation of the tendon, as well as in knowing when it is divided. In this latter part the surgeon often must depend upon him who assists in the operation to know for certain whether the tendon has been divided at all, or if partially instead of completely: the tendon to which these remarks mostly refer is that of the posterior tibial muscle. In infants and adults very often it is difficult for the operator always to know when he has cut it through; he trusts then solely to the assistant, who should be able to tell by the amount of yielding of the foot, as well as by feeling the substance of the tendon divided at the same time, whether such be the case or not; and if any doubt arise, either in his or in the operator's mind, the knife should be again passed beneath the tendon, and attempts made again to divide it.

The tendon most easily divided is the tendo-achillis: its position and size, as well as its separation from the deeper parts, offers great facility in ascertaining its precise boundaries, as well as for the passage of the knife beneath it. Some precautions, however, are here necessary to avoid untoward circumstances, the two principal of which are, transfixing the skin, either in passing the knife inwards, or after the tendon has been divided; the other precaution to take is, to avoid the posterior tibial artery, which, however, is more necessary in infants than in adults; in very many cases of infantile varus the tendo-achillis becomes so much displaced inwards that it lies almost over the artery, and nearly in contact with it. If the point of the knife be passed too deeply before it is made to turn beneath the tendon the vessel might be punctured. This accident is more likely to happen in very fat children, and in very thin ones, owing to the great nicety then required in calculating the precise depth at which the tendon lies.

In some of the violent spasmodic cases of contraction of the muscles of the calf, great care is required to prevent the knife dividing the skin, when the ends of the tendon yield so suddenly, and bring the edge of the knife against its inner surface before the surgeon might be aware of it. Much depends also upon the assistant in these spasmodic cases to watch closely when the division of the tendon takes place, and to immediately relax the foot at the same time that the operator turns the edge of the knife downwards, before withdrawing it.

The posterior tibial tendon is certainly the most difficult to divide, both from the absence (as a general rule) of any definite shape or size to serve as a guide as to its *precise* situation. In very fat infants it is next to impossible to feel the tendon itself through the skin; and to feel the only sure guide to it, namely, the inner edge of the tibia. Much tact and experience is required in these cases, in the assistant as well as in the operator.

The posterior tibial artery is sometimes wounded and divided completely; and this is not to be wondered at, when the close position of the vessel to the tendon is considered, for there is no certain guide to the thickness or to the depth at which the tendon may be placed: I never have seen any evil consequences myself arise from it, provided it be completely divided across; the vessel then retracts, and closes here as in other situations, and all fear of aneurism is avoided. When the artery has been divided, graduated compresses should be placed over it, and the limb be evenly bandaged from the toes upwards, and should not be looked at for a fortnight or three weeks.

The division of tendons, though so important and *nice* an operation, is certainly one of the most harmless in surgery, when done with care and attention; for out of the many cases that I have seen operated on, and have operated on myself, together amounting to the division of some hundreds of tendons, I do not remember a single case during the last five years where the wound has not healed by the first intention, without the slightest approach to inflammation, or to any untoward circumstance. It is this fact

that ensures a more certain cure now than when the operation was first introduced; for the harmlessness of the division of tendons necessarily admits of more boldness in this branch of surgery, by allowing the surgeon to divide with impunity all those parts, whether tendons or bands of fascia, which exist as obstacles to the perfection of the cure. The grand reason, no doubt, of the safety of the operation, as well as of the certainty of the union of the two ends of the tendon, is owing to the division being so completely subcutaneous, there being simply the puncture in the skin produced by the narrow blade of the knife, and which heals in the first four and twenty hours. Reparation then goes on without the possibility of any interruption, provided the foot be kept at rest, and its natural warmth preserved.*

Two methods are employed for the division of tendons; the one, that of passing the knife beneath the tendon, and then cutting upwards towards the skin; the other, that of passing the knife first between the skin and the tendon, and then cutting downwards, or from the skin. My own impression is that the former is decidedly a more preferable mode of operating than the latter; and for the following reasons, namely, that all difficulty of passing the knife between the skin and tendon is avoided, and which must exist in some cases where the skin is very thin, and the tendon very tense: the tendon is also more easily encompassed, and its division more easily commanded—important points, especially in spasmodic cases; lastly, there is not so much liability to wound the vessels, since the point of the knife can be much more certainly guided, and must always precede the blade, and so include all the parts that have to be divided between it and the skin, with a power of at once withdrawing or of altering its direction at pleasure. The manner of holding the knife in the two cases is so different, giving a decided preference to that for the division upwards, owing to the increased steadiness, as well as power of direction, the position in which the fingers are placed, gives it. Rest, amounting to the prevention of all movement between the two ends of the tendon, must be preserved for the first eight-and-forty hours. This is gained by placing the limb in the horizontal position, and by fixing the joint in such a position that the divided portions of tendon may be in as close contact as possible, to secure the first stage of the union commencing without interruption. If this be not attended to, the union may be so far interfered with, that if it be not prevented altogether, it may be so weak that all power of the muscle connected with it may be lost, and its action rendered so little efficient as to reduce it almost to the condition of a paralysed muscle. The same effect may be produced if the uniting medium be stretched too quickly: the tendon is then made too long for the muscle, as well as being so much weakened that all power of supporting the joint or of moving it is lost.

Warmth is another essential point to attend to, more particularly in cases of division of the tendon in paralysed limbs. The temperature is generally lower than natural, and sometimes many degrees, causing a diminution in the ordinary powers, both in the circulation as well as in the secretion; functions both influenced, from their mutual dependence, in the extraordinary process of the formation of new tendon now required, by the proper temperature of the limb being preserved. The whole limb should be kept constantly covered either in a flannel bandage, or be wrapped up in flannel.

However essential the division of the tendons may be to facilitate the treatment of club-foot, it is only a preliminary step to the more important parts of the treatment—namely, the mechanical. Most forms of club-feet may be partially relieved, and the limb rendered a *comparatively* useful one, without any division of the tendons, though the cure may not be perfect; but none of them can be treated without the aid of mechanical means, however trifling the form of club-foot may be. Great attention, then, is required in the adaptation of the diffe-

* The general points connected with the union of divided tendons have recently been considered by Mr. Paget, who has also made a very interesting series of experiments in connection with them, the result of which was given in his valuable lectures at the College of Surgeons this year, well illustrating the difference between the open and the subcutaneous operation, as influencing the facility of the union.

rent kinds of treatment that may be employed, and much experience also, to regulate their action, to avoid unequal pressure, and too forcible extension of the divided tendons; the result of which would be, the production of sloughs in the skin, and a weakened condition of the tendon: on the other hand, too much delay must be avoided, otherwise the ends of the tendon will become so firmly united that the contraction may be as rigid as before the operation, and require a re-division before the deformity can be overcome. The grand point to bear in mind in the employment of all kinds of instruments made of hard unyielding materials, and which are made to act on soft parts by the means of straps and screws, is not to make too much pressure, and to let the action of the instrument be very gradual and regular, and to produce no pain. These points cannot be too much attended to, more particularly when the patients are infants, in whom the skin is so thin and tender as soon to inflame and become ulcerated, when of course all treatment has to be discontinued, and the period increased beyond that there is any necessity for, even if no worse consequences arise by allowing the contraction of the tendons to take place again, and cause the foot to be placed nearly, if not quite, in the same condition as before the operation. Great attention must be paid, then, to ascertain if the patient be suffering pain, and the straps loosened at once, if such be the case. One of the grand rules to be observed is, to avoid the production of pain in the employment of all instruments required for the treatment of the various deformities, otherwise sloughing and ulceration will be sure to be produced. The necessity for this precaution arises from the fact of the instruments being made of such hard unyielding material, which they must be, owing to the kind of force they are required to employ, as well as to the lengthened time it is desirable to keep the limb confined without its removal, to ensure its continued action, — a point of the highest importance. On this account too much care cannot be paid to the first adaptation of the instrument to avoid the necessity of early removal for its reapplication, as well as to secure comfort to the patient.

It is in this part of the treatment of club-feet that surgeons who have not had much experience so often fail, for there are so many nice points to attend to; though frequent observation, and knowing how to manipulate the various kinds of instruments, is absolutely necessary to make them act efficiently, and at the same time to avoid the production of pain: nothing but practice can teach this, however simple it may seem when the instruments are once applied; for pressure may be made at a point where it should not be, and be omitted where it is absolutely essential that it should be constantly kept up, in order to replace the bones in their natural position.

While upon the subject of the general treatment of these cases, I must refer to the importance of urging upon the patients, and upon those who have the charge of them, the *absolute necessity* of not interfering with the instruments or apparatus when once applied (of course presuming they cause no pain); for not only will delay be caused by so doing, but the ultimate result of the case be influenced by it, by allowing the tendon to become firmly reunited before the deformity has been overcome. This fault is common enough amongst hospital patients, and is often met with in private practice, even amongst those who ought to know their own interest better. It is one of the great evils surgeons have to contend with in the treatment of deformities generally, where they depend principally, if not solely, upon mechanical means for their cure.

The after-treatment required to be pursued when the foot is being brought into its natural position, is also important to attend to; for it is to be remembered that there is always a tendency for the foot to incline again in the direction towards the position it has been in for so long a time, owing to there still being an unequal balance in the power of the muscles, the stronger ones still being those which originally turned the foot, although the tendons have been divided; for experience has proved that the union of tendons takes place so perfectly, that the strength of the muscles does not become at all diminished; but, on the contrary, that the contraction may recur, if precautions be not taken to prevent it.

Some kind of support is generally

required when the patient begins to walk, adapted to the peculiar nature of the deformity, consisting of an iron attached to the foot, acting in a manner that its tendency may constantly be to keep the foot in the opposite direction to that it was placed in during the existence of the deformity.

It is absolutely necessary that the patient should be seen occasionally after the cure during the first twelve months or longer, and the foot be examined carefully, to ascertain not only the shape and position of the foot itself, but the condition of the tendons with regard to any disposition there may be for the recurrence of contraction; and, should such exist, mechanical means, as well as passive motion, should be employed regularly till it be overcome; and the latter—namely, the passive motion—is one of the most important parts of the after-treatment in all cases of varus, and particularly the congenital cases, where no paralysis exists; for the rigidity is generally so great, as well as the little power the muscles have of moving the foot in its new position, that artificial motion is required to give freedom to the joint, and to prevent it turning inwards again. Too much attention cannot be paid to this point: it should be persevered in daily, in a regular and systematic manner, till the rigidity of the joint be overcome.

The remarks I have made in the present paper refer to some of the principal general points that it is essential to attend to in the treatment of club-foot, whatever form it may take. They are important ones to bear in mind, in order to carry out in detail the minor parts in the treatment essential to ensure a successful result. It should be constantly borne in mind that in no class of cases is neglect so injurious, either on the part of the surgeon or of the patient, as in those of deformities, where so much depends upon the proper adaptation of mechanical means, and which can only be obtained by constant attention on the part of both.

In my next paper I shall commence the special treatment of the particular kinds of club-foot, beginning with the simplest form—the Talipes equinus.

[To be continued.]

MICROSCOPIC CHARACTERS OF CHOLERA DISCHARGES.

By Thomas Williams, M.D. Lond.
Licentiate of the Royal College of Physicians; late Demonstrator on Structural Anatomy at Guy's Hospital.

On the 10th July of this year a solitary case of cholera occurred in this town, which proved fatal, and which was attended by Mr. Rowland and myself: it was a case imported from Shiels. The discharges, which were quite characteristic, I submitted to careful microscopic and chemical examination. The singular polygonal confervoid bodies, of which figures accompany the present communication, were *then* clearly and repeatedly demonstrated and witnessed by my friend Mr. Rowland. Faithful sketches of the objects, which then arrested my attention by their singularity, and which contrasted so strikingly with the prismatic epithelium of the intestinal mucous membrane, were at the moment made in my note-book. Early in the month of August the cholera rushed upon us in this town with great suddenness and virulence, and opportunities became abundant for testing what I had conceived on the 10th July to be a *new fact* in the pathological history of cholera. Fourteen cases were accordingly subjected to a rigorous microscopic scrutiny. In those cases in which the rice-water purging was only about to commence, I never failed to discover the perfect or unbroken pentagonal cells shown in Fig. A.

Fig. A.

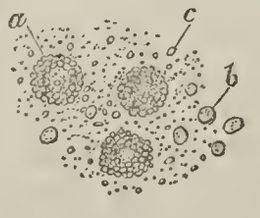


Fig. A exhibits the microscopic characters of the peculiar bodies which were first observed by me in the discharges of patients labouring under cholera July 10th, 1849. They consist of flattened polygonal (for the most part) pentagonal corpuscles, the interior of which is incompletely filled by a mass of molecules aggregated in a form approaching the sphere, and presenting in the centre a nucleolar

pellucid point. The perfect cells are shown at *b*, the contents scattered by pressure at *c*.—Magnified 150 diam.

FIG. B.

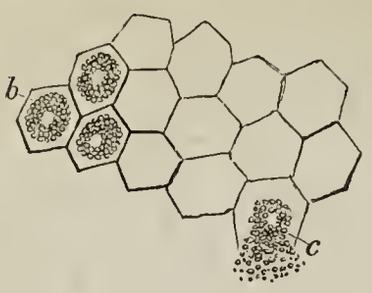


FIG. B affords illustrations of the nuclear molecular masses (shown in situ in the preceding figure) deprived of the cell-capsule; in other language, they are *free* nuclei, preserving their original orbicular figure in consequence of the adhesiveness of the component molecules: at *b* are figured bodies of intermediate size between the ultimate molecule and the compound nucleus; they are probably the pellucid nucleoli detached.—Magnified 350 diam.

In the more advanced cases, the granular bodies, which appear as though they were destitute of involucrum, and which are exhibited in Fig. B, constituted literally *the whole* of the solids of the discharge. The flakes, shreds, molecular deposits, and floating filaments, were composed of *nothing* but these capsuleless corpuscles, the capsules being ruptured by the endosmosis of fluid into the cell. The detached loose molecules, from their levity, floated in every part of the fluid, and seemed to exceed by very little the specific gravity of simple water. These bodies were visible under the microscope after complete desiccation, and constituted in that state an impalpable powder, which, from its literal weightlessness, would float in the atmosphere. I was thus led to conceive that these ultimate molecules were the real germs or *ova* of the mature choleraic cell shown at Fig. A, and that *they* formed the veritable carriers on the wings of the atmosphere of the disease from one person and one locality to another.

This, in brief, forms the outline of the theory of cholera which had arisen in my mind on the foundation of the *facts* which I have just recorded. These views I took occasion many weeks since to explain to my friend, the Rev. Calvert Jones.

This hasty communication has been elicited by the announcement in your last that Mr. Brittan, of Bristol, contemplated the publication in your next number of the results of his observations on the fluids of cholera conducted under the microscope. I hurry away this short and ill-digested communication, with the desire that it may appear as quite independent of the discoveries of others, of whose observations in this remote part of the country it cannot be supposed that I have heard a syllable.

In the next week's number I hope to supply you with a more lengthened account of the results of my own examinations.

Swansea, Sept. 23, 1849.

NOTE ON THE

PRESENCE OF PECULIAR MICROSCOPIC BODIES IN THE DISCHARGES OF EPIDEMIC DYSENTERY.

BY WILLIAM BALY, M.D., F.R.S.,

Physician to the Millbank Prison, and Lecturer on Forensic Medicine at St. Bartholomew's Hospital.

THE following imperfect account of some microscopic bodies observed a few years since in the mucous discharges of epidemic dysentery, would not merit publication, were it not for the analogy probably existing between the bodies referred to and those described in last week's MEDICAL GAZETTE, by Mr. Brittan, as occurring in the rice-water dejections of Asiatic cholera.

After a severe epidemic of dysentery which occurred in Millbank Prison, in the year 1842, the disease frequently reappeared at intervals. In the course of the years 1844, 1845, and 1846, I availed myself of the opportunities thus afforded me of examining, with the aid of the microscope, the characteristic mucous discharges of patients affected with the disease, and at length had my attention attracted by the presence in the mucus of peculiar bodies which differed in a striking manner from any of the ordinary elements of healthy mucus, or of the normal animal tissues, though some examples bore a resemblance to the ova of animals.

The bodies in question were generally circular in outline, were far more opaque than the mucous globules and detached epithelium particles amongst

which they lay, and varied greatly in size. The smallest (*a*) appeared to be globular or nearly so. The larger ones were for the most part collapsed or broken. But all alike had a thick wall, and a cavity containing globules, which were opaque and apparently destitute of nuclei. In the small ones (*a*, *b*) the wall also appeared to be formed of similar globules of uniform size, regularly arranged. In the larger ones (*c*, *c*, *c*) the structure of the wall was for the most part less evident. But occasionally one of very large size was seen, in which the conglomerate structure was remarkably distinct (*d*). Once or twice, too, there lay near to such a large compound body, a large empty vesicle, widely torn open (*e*), which I could not help suspecting had till recently formed its investment.

The accompanying woodcuts, which represent these different objects, are copies of sketches, chiefly in outline, made in November 1846, from one specimen of dysenteric mucus, viewed with an $\frac{1}{8}$th inch object-glass. (The globular structure in the shaded part of fig. *d* is not rendered with sufficient clearness.)

At the time these observations were made, I was inclined to regard the globular bodies in question as the products of diseased follicles of the large intestine: I arrived, however, at no definite conclusion as to their nature. But when Mr. Brittan, on the 14th inst., kindly showed me his preparations, and the drawings by Mr. Swayne, of the peculiar bodies which those gentlemen had simultaneously discovered in the rice-water dejections of cholera, I was at once struck with the similarity between the larger of those bodies and the collapsed and broken corpuscles (*c c c*) of the dysenteric mucus.

Fig. 1.

Fig. 2.

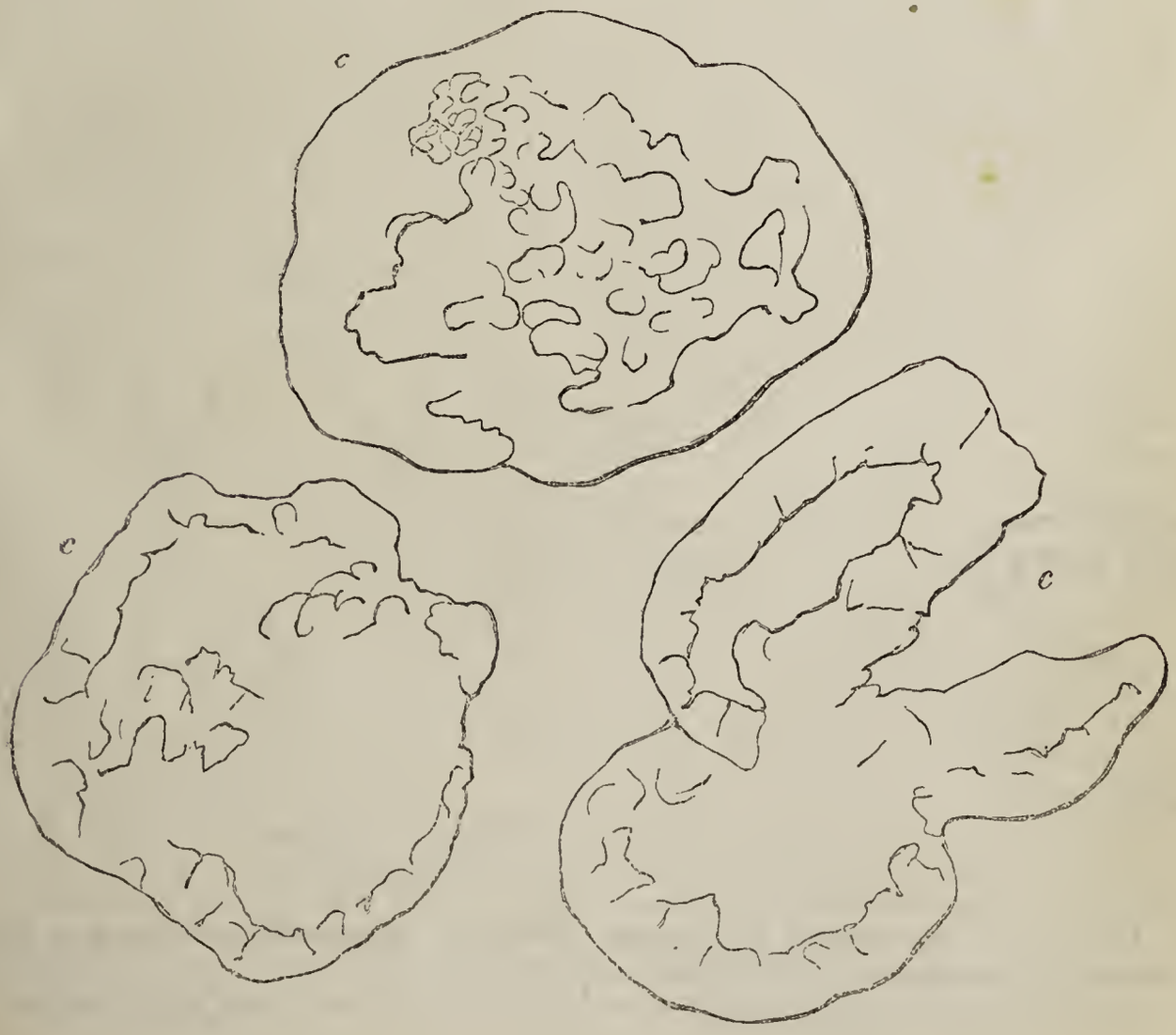


Fig. 3.

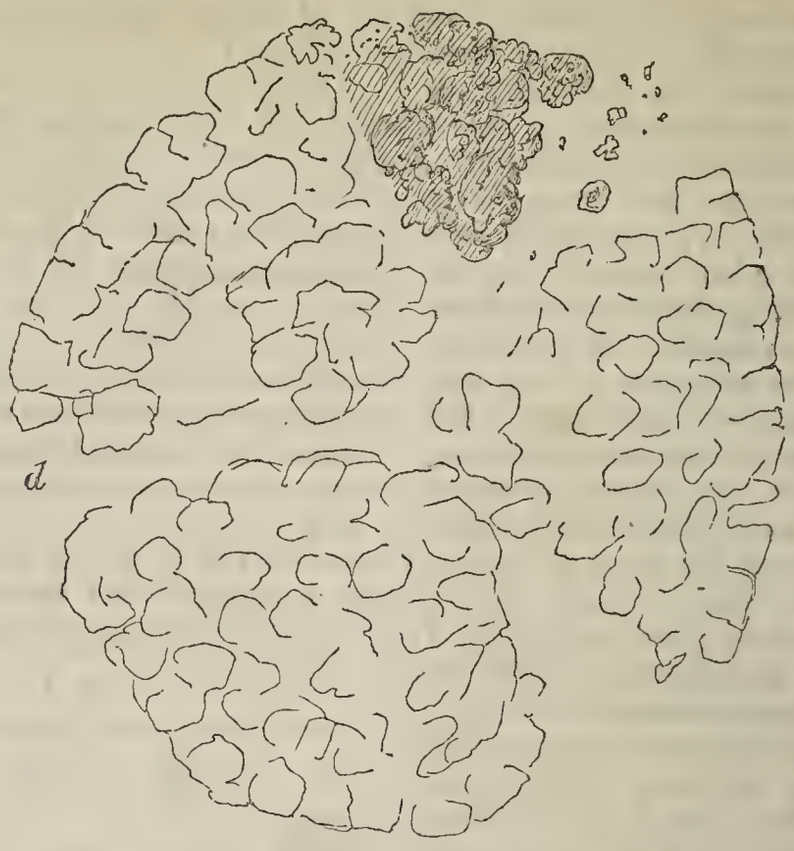
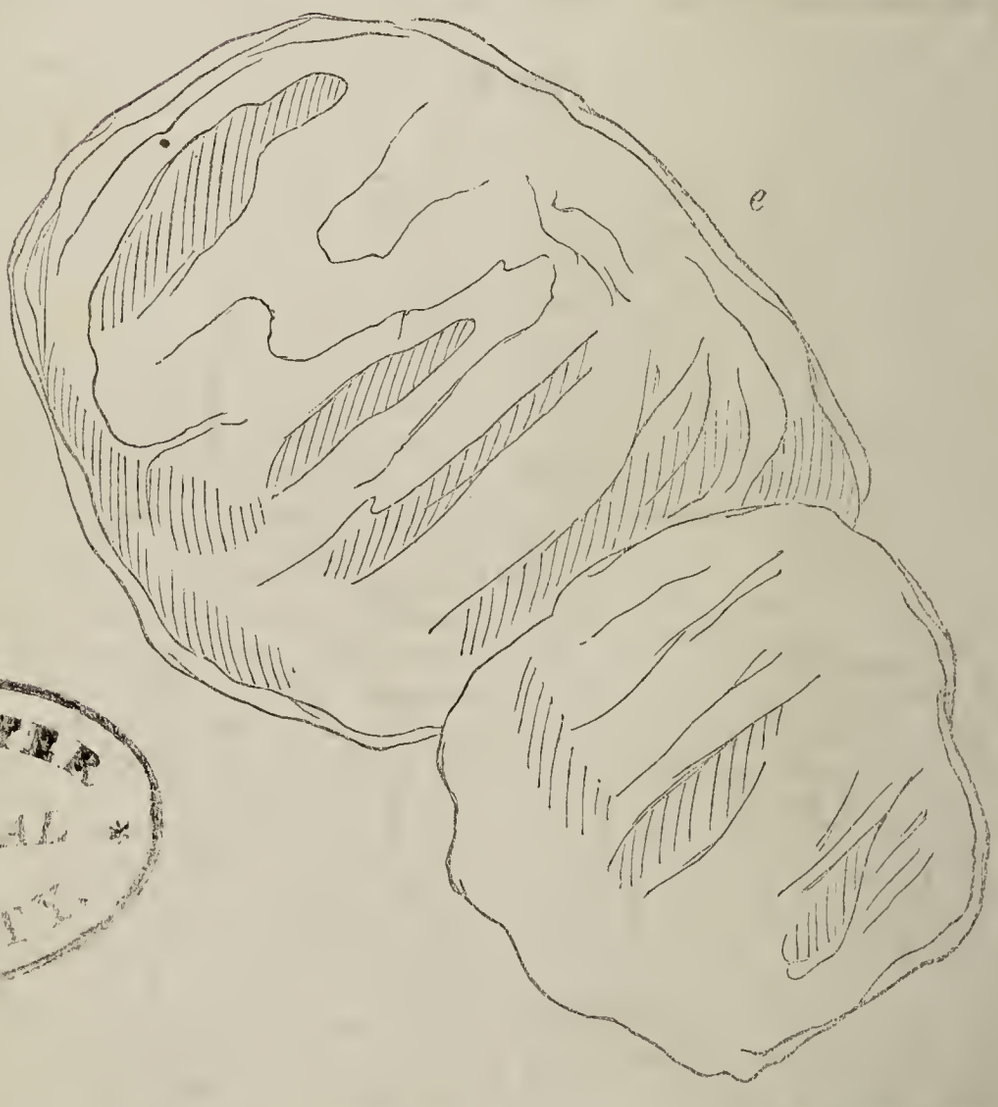


Fig. 4.



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On further investigation, I have perceived that there is a marked difference between the bodies observed in the two diseases. Those which are seen in the rice-water dejections, and in the matters vomited, in cholera, are of smaller

size and more flattened, present no appearance of compound structure in their early stage, and at no period of their development have this structure so marked as it is presented by the corpuscles seen in the mucus of dysentery. Yet in both there is the same gradual development, and the same endogenous mode of multiplication; and both are evidently of extraneous origin. They are clearly not the same bodies, but it seems to me probable that they are of similar nature. And if the opinion prove correct that the bodies discovered in the discharges from the alimentary canal of cholera patients are vegetable organisms of the lowest order (fungi), then I should have little doubt that these bodies in the dysenteric mucus also are fungi. They resemble, indeed, closely in many respects the individuals of the genus Protococcus. They want, however, the finely cut outline of most vegetable structures.

I have failed to find the same objects in the bloody mucus discharged from the intestinal canal in two cases of sporadic inflammation of the colon. It becomes, therefore, a question whether they are not peculiar to *epidemic* dysentery, and of constant occurrence in it. This is a question I have myself at present no means of answering. If it were determined in the affirmative, the fact would afford support to the theory that the so-called fungi of cholera are the causes of that disease. If, on the other hand, it were found that such bodies are only occasionally found in dysentery, even of the epidemic character, it would be evident that they stand in no close relation to the disease, or at all events are not its cause; and the conclusion that cholera is produced by a parasitic fungus would be weakened. This question, however, regarding cholera,—a question, the importance of which cannot be overestimated, will doubtless soon be determided by other evidence. I have alluded to it only to show what I regard as the more important bearings of the observations I have related.

If the bodies described in this communication are not parasitic fungi, then it may, I believe, be safely affirmed that no such bodies exist in the discharges of dysentery.

28, Spring Gardens,
29th Sept. 1849.

MEDICAL GAZETTE.

FRIDAY, OCTOBER 5, 1849.

Dr. Balthasar Lvdovicvs Tralles, whose description of the malignant cholera of the middle of the eighteenth century we have recently transferred to our pages,* in treating of the *nature and origin* of the disease, is inclined to refer it in most cases to a vitiated state of the biliary secretion. His section on this subject, however, appears to us clearly to indicate that cholera attended with *serous* and *aqueous* discharges, by vomiting and purging, *i. e.* entirely free from bile, was well known to physicians in his time, and that theories of the disease had been already based on this singular *acholic* condition of the fluids. We here quote the passage:—

"An vero etiam iure suo quae consideranda restat bilis, in se quando recens secreta est, non minus blanda, absolui potest ab illa culpa, quod non facile contrahat eam acrimoniam quae possit producere choleram? Dispiciamus accuratissime! Id si asserere auderet aliquis, magno strepitu unoque ore, sibi contradicentes haberet veteres sine exceptione omnes, eousque enim ipsis male audit bilis, vt solam fere semper aliis causis vel plane non, vel obiter saltem allegatis, morbi materiem esse constanter clamitet. Non forte praeter rem suspicor, id ipsum olim Cl. *Bohnio* disputaturo Lipsiae pro loco *de Cholera* ansam dedisse, praemittendi in panegyri doctorali quaestionis resolutionem, *an bilis sola cholerae causa sit? Diemerbroeckig*, quando nullum alium irritantem stimulum quam bilem acriter efferuescentem, et subito in duodenum ex hepate et ductibus cystideque exturbatam, in cholera admittit. Nil vero me mouet hic Veterum Auctoritas cui multum iam derogauit Cl. *Pechlinus, ex cholera serosa quam descripsit, quamque prorsus ἄχολον fuisse refert, rectissime inferens, bilem quandoque prorsus a culpa immunem esse, causamque morbi aliunde omnino esse repetendam. De vomitibus et alui dejectionibus mere aquosis, et fere limpidis raro biliosis in descriptione cholerae verba quoque fecit Willisius*, atque phlegma acidum ipse reiectum vidit Ridley. Poterant eqnidem qui Medicae Antiquitatis nimia hic,

* See our last number, page 545.

vt alias interdum veneratione ducuntur, prouocare ad Obseruationes *Glissonii*, qui cholera peremptorum cadauera inuestigando vesiculam felleam vacuam, totumque hepatis viscus exsuccum inuenit, atque exinde concludere audet, a spasmo hepatis, vesiculæ, et ductus choledochi bilisque adeo emunctione, nasci choleram. Nil vero hoc ipsum facere, ad stabiliendam causam vnice biliosam in cholera ex infra dicendis clarius apparebit, quando seorsim demonstraturus sum, stimulum quemuis alium quam biliosum, positum in ventriculo et intestinis, choleram posse proritare, atque quemuis sua irritatione ad fluxum humorum vberiorem aduocando, non bilem saltem ex capsula et ductibus, in quibus asseruabatur et mouebatur, sed omnia totius corporis liquida sine exceptione emungere. Mea quidem sententia peccant vtrinque, qui vel semper bilem in cholera causam statuunt, vel nunquam aut raro nimis in eadem culpam ponunt, cum et negari nequeat, dari choleras bile ab omni vitio immuni, et simul certissimum omnino sit, inter alias causas proximas cholerae illam eminentem hercle locum occupare, quatenus desciscens a sua natiua indole, acerrima et rodentissima acrimonia quam acquisiuit, nerueas tunicas ventriculi et intestinorum vellicando hoc malum proritat. Hanc autem acrimoniam, dum qui eam agnoscunt autores exacte determinare aggrediuntur, denuo in magnam confusienem Lectores inducunt, si his acquiescere vel in vnius vel in alterius sententiis placuerit errore et cespitatione, dein in ipsam uraxin defluente." (p. 190.)

Independently of the colourless nature of the discharges here plainly indicated, it will be perceived that direct reference is made to the draining of the body of the whole of its fluids.

Dr. Watson remarks, in reference to the epidemic cholera, that "the amount of the fluid matters thrown up from the stomach and discharged by the bowels was really in many cases wonderful.* Let this statement be compared with the following quotation from Dr. Tralles, and it will be perceived that this character of severe cholera was well known to ancient writers :—

"Mirum videtur nonnullis solis vomitionibus et deiectionibus tam enormem, et nisi oculis vsurparetur, incredibilem pene liquidorum vim ex corpore educi, vt breui quandoque duarum vel trium dierum spatio, deperdito ex vasis omnium generum vitae commeatu, succulentissimus antea homo subito flaccescat, atque extenuatus, exsuccus, marcidus, vixque ossibus haerens conspiciatur." (p. 227.)

Here we have also strikingly indicated "the manifest shrinking and diminution of the bulk of the body."

Some modern theories respecting the source of the liquids thus profusely discharged are thus anticipated :—

"Atque in his rectius omnino sese gessit, quam recentiores quidam Pathologi, qui videntes eminentem adeo fluidorum iacturam, quam omnia vasa totius corporis ad inanitionem vsque patiuntur, in eam abierunt sententiam, in omni sanguinis oceano latitare aliquem fomitem qui in intestina deponatur sensim, ibidemque rodente sua indole excretiones proritet. Ita praeter rem Cl. *Sennertus* nonnunquam ex toto Corpore et ex venis omnibus biliosum et flauum humorem in ventriculum confluere perhibet. Ita sine ratione *Willisius* qui humorem peccantem neutiquam esse bilem vel succum pancreaticum vel alium intra ductus intestinales genitum contendit, succum neruosum et nutritium in crasi vitiatum in massam sanguineam redundare et deinde ex ea versus stomachum et intestina per vasa coeliaca transferri autumat. Longe elegantius autem noster olim Illustr. de *Helwich* si eum bene intelligo, *cum tanta saepe vtraque via in Cholera expurgetur humorum copia vt incredibile sit eam omnem in primis viis haesisse, suspicionem nasci ait, ex massa sanguinea non minimam sentinae huius partem per arterias ad ventriculum et intestina defluere.*" (p. 231.)

Two inferences may, we think, be fairly drawn from these quotations—1st, that under such copious discharges a state of collapse must have speedily followed ; and 2ndly, that the disease was as intractable and fatal as the epidemic now amongst us. One of the chief reasons assigned by Dr. Watson for the epidemic or Asiatic cholera being a *new* disease in Europe, consists in the allegation that "the matters ejected from the stomach and bowels contained *no bile* (and this alone, 'he observes,' is a good reason against calling the disease cholera.") The quotation from the work published in 1753, shows that this reason has no

* Lectures, Vol. ii. page 461.

substantial foundation. A fatal disease like cholera, the peculiar character of which was that the discharges by vomiting and purging were watery and contained no *bile*, had been long previously known. We do not find the suppression of urine to be anywhere described as accompanying this form of cholera. Dr. Tralles, indeed, appears to have mentioned these cases of serous cholera only incidentally in reference to his theory of the nature of the disease, and its dependence on a vitiated state of the biliary secretion. He does not profess to describe its peculiar symptoms, nor does it appear that he himself ever saw a case.

The influence of climate and season over the production and diffusion of the disease is indicated in the subjoined passage; but no distinction is drawn between the cholera attended with bilious, and that accompanied by serous or aqueous discharges. It is remarkable that the season assigned by Sydenham for the prevalence of the (bilious?) cholera of the seventeenth century should coincide with that at which the present epidemic has shown its greatest malignity during its two visitations in the nineteenth century.

"Inter recentiores *Zacutus Lusitanus* Choleram in oriente frequentissimam plurimos necare, et in Arabia fere lethalem esse memorat, quod ipsum quoque *Bontius* confirmat in India orientali choleram frequentissimam esse testatus. Atque apud eundem alio loco, me legisse memini ipsam incolis Iauae insulae, ob solum aerem calidiorem quasi endemiam et non minus ac ipsam pestem formidabilem esse. Londini *Sydenhamus* mense Augusto ordinarie grassari solitam fuisse choleram, ita vt rarissime eius terminum excesserit affirmat, atque ita aestate fugiente et autumno imminente familiarem fuisse. Vratislauiae quo feruidiores sunt solis ardores, eo frequentiora esse cholerae exempla, sub initium decurrentis seculi edixit Celeberrimus noster de *Helwich*, assertique veritatem, integrum dimidium eius quod elapsum est ratam omnino habuit. Sat certum igitur redditur, aestum aëris et sanguinis iuuare largam secretionem bilis, adeoque causam a qua toties hic morbus pendet." (p. 197.)

There is nothing new in the great mortality and intractable nature of the present disorder. Dr. Tralles tells us in his section on prognosis, p. 246—

"Raro vero alius quam tragicus euentus manet aegros cholericos."

Authorities are cited, bearing out this statement:—

"Ex recentioribus *Riverius* non minus ac veteres choleram morbum acutissimum vocat, *subitam plerumque mortem inferre solitum, atque Teichmeyerus cholera* scribit, *morbus peracutus est, qui atrocitate sua homines etiam robustissimos intra breue temporis spatium vel miserrime debilitat, et excruciat, vel crudelissime interficit.* Cur vero his testimoniis immoror, ad omnes omnium Auctorum descriptiones prouocare licet, namque ne vnum nominauero, qui aliter sentiat, quare rectissime Cl. *Vaterus* nullum in vniuerso morborum internorum genere dari graviorem, atrociorem, truculentiorem, morbique proximiorem contendit, quam passionem cholericam si perfecta et exquisita fuerit. Nemo vero et hunc Cl. Virum, et alios nimios fuisse in pingenda foedis adeo coloribus huius affectus atrocitate existimabit, quisciuerit ipsum vltra 4. dies vix vnquam excurrentem, atque non raro altera vel tertia die aegrum iugulantem *interdum adeo non diebus, sed horis haud bene multis elapsis attingere funesti sui decursus terminum.* Angusto 24 horarum spatio symptomata saepe aegrum interimere notauit *Sydenham* atque *Bontius.* Imo vero plures pridie satis sanos, et valde robustos, intra 12. horas, morbi huius tyrannide adeo miserrime deiectos vidit *Willisius*, vt moribundi viderentur, *non paucos autem quibus medendi opportunitas* deerat cito interemptos. Cholera correptos veluti a furiis internis ita exagitari, vt intra dies, *imo horas paucas*, inter immanissimos cruciatus, conuulsiones, aliaque horrenda symptomata e vita tollantur, asserunt parens et filius *Vateri.* Neque desunt apud practicos exempla specialia tristissimam hanc veritatem comprobantia. Baronissam habet *Thonerus*, inter dira symptomata hoc morbo *intra paucas horas* extinctam. De quodam nosocomii oeconomo qui hora sexta vespertina adhuc valens subito cholera correptus est narrat *Bontius*, quod ante duodecimam noctis horam, vomendo simul ac per aluum deiiciendo cum horrendis cruciatibus et conuulsionibus iam miserrime exspirauerit. Viatorem quendam adducit *Ridley*, qui non obstantibus clysteribus, et aliis remediis contemperantibus et abluentibus intra spatium 20. horarum violentia morbi vitam cum morte commutauit. Porro laudatus modo Christ. *Vaterus* velox fatum recenset Viri, qui media nocte doloribus

quasi colicis corripiebatur, sequentibus symptomatibus acerbissimis cholericis, atque licet optima adhiberentur remedia, altera die a meridie convulsus et frigidis sudoribus perfusus animam exhalauit. Varia demum exempla cholera breui tempore mortuorum exhibet *Henrici.*" (p. 247.)

In this extract reference is made to cases which have proved fatal within a few hours after the commencement of the attack, to rapid death where no remedies had been applied for the relief of the spasms and cramps which accompany these severe cases, and to the sudden seizure in the middle of the night, which has been a marked feature in many of the cases observed during the prevalence of the present epidemic. Thus, then, the early supervention of the symptoms of collapse and the great mortality of the disorder were as well marked in the cholera of ancient medical writers, as in that which is now known as the Asiatic disease.

Respecting the failure of medical treatment, especially in the stage of collapse, this was a truth as well known a hundred years ago as it is in the present day, and the importance of an early resort to medicine (in the premonitory stage) was just as well understood then as now.

"Si vnquam et in vllo alio morbo in hoc sane ad curam properandum esse, *quoniam exigua morula damnum et mortem afferre potest* cum *Tralliano* inculcat *Vaterus.* Quamobrem vbi extrema mali vis eousque adscenderit, vt remediorum summorum potestatem id elusurum fore coniici queat, honori artis optime consuli certum est, si a medela abstineat peritus artifex, aut saltem molimina omnia frustranea fore sagax praedicat. Id quidem sincerum iam consilium fuit Celeberrimi inter vetustos Medicos *Aretaei: Si omnia vomitu reiiciat aeger,* inquientis, *si sudor perennis effluat, si frigeat laborans, et liuidus fuerit, pulsus etiam prope extincti sint et vires cadant, honestam fugam capessere bonum est.* Cuius sine dubio vestigia legens ex Neotericis *Vaterus: Vbi,* inquit, *funesta symptomata concurrunt satius interdum est a medicaminum exhibitione plane abstinere, quam frustranea eorum adhibitione artem saluberrimam prostituere.* Princeps vitalis si prorsus langueat, pulsusque debilissimus vix tactu percipiatur, ac subinde intermittat, deinde si seruationes dolorosae sint exquisitissimae, aut quae tales erant subito in indolentiam abeant; porro si sensus interni perturbati et aboliti obseruentur, menteque sibi amplius non constet aeger, sed balbutiens delira loquatur; rursum si motuum impetus sit enormis, conuulsionesque perpetuae ventriculi et intestinorum vomitibus et deiectionibus perpetuis testibus in singultum tendant, et ad artus tremore concussos et contractionibus vexatos propagentur, eorumque extrema sudantia licet intense tamen frigeant, dum interiora corporis interea vruntur.

* * * * * *

"Id bene intellexit inter alios *Riuerius,* breuiter omnia complexus. *Quo grauior* inquiens, *in cholera syncope, convulsio et extremorum frigus, eo breuior historia et mors propinquior.* Haec nimitrum quae tradit phoenomena docent luculenter, *ita emuncta esse liquida vt circulatio fere desinere incipiat;* ita irritata solida vt ad ipsas neruorum origines serpat vitium; eousque loca affecta vt inflammatio illorum sit summa, vel iam migrauerit in gangraenam et sphacelum. Quid vero hisee conditionibus in corpore humano positis, amplius pro vita sperandum superesset? E contrario autem non sine fiducia expectari potest, fore vt aeger perito medico commissus ex orci faucibus eripiatur, quando pulsus regularis, plenus vtcunque, et fortis vibrat, febrisque mitescere obseruatur, aut bona fortuna prorsus abest; quando dolor excreta causa cum aliis bonis signis minuitur, vomitionumque ac deiectionum frequentia et impetus conquiescit, ac excreta aluo naturalibus similia euadunt. Porro quoque in maiori securitate versatur aeger, quando durante atroci corporis aegritudine mente interim valet, quando conuulsiones absunt, aut illae remediis adhibitis cito auscultant, atque aequa distributione humorum per corpus superstite extrema naturaliter calent et perspirant." (p. 251.)

The thickening of the blood by the loss of its fluid portion, and the consequent arrest of circulation, are here plainly adverted to. The symptoms indicative of sinking and recovery are those which now guide medical practitioners in their prognosis (*ac excreta aluo naturalibus similia euadunt*). The influence of a knowledge of the cause of the disease on the prognosis is subsequently described, and we find there brought out the well-known truth "funestior autem illa cholera, quae nulla praegressa evidente et manifesta causa

aegrum impetit, et ab interno vitio tantum excitatur." Experience, however, has now added to our knowledge the fact that errors in diet, which produce at first only simple diarrhœa or a manageable form of cholera, are, under the present epidemic condition, liable to cause an attack of the malignant disease.

In another section of the work we find a long account of the *Febris Cholerica*, or of the fever which accompanies cholera, and which it was supposed had not been hitherto described.

With these quotations, which for obvious reasons we have given in the original, our readers will be in a position to judge whether the disease now amongst us has really the recent origin which some erudite practitioners of our own day have assigned to it. We began the investigation already prejudiced in favour of the view entertained by Dr. Copland and other reputable authorities — namely, that before the year 1817 the disease was altogether unknown either in India or Europe, and that the *materies morbi* first sprang from the jungles of Jessore in that year. We must admit, however, that the description given by Dr. Tralles of Cholera, as it was known to medical writers in 1753, has satisfied us that a much older date must be assigned to the *first* outbreak of this pestilence. The description is perhaps as complete as the state of pathology at that time would admit of. If we except the want of reference to any account of the state of the renal secretion, all the marked peculiarities of the present disease are clearly indicated.

The fact that no modern English physician had met with a case of the disease before 1831-2, is of course no argument against its earlier origin. It is clear that within the last hundred years, if we except 1831-2, the disease could not have spread as an epidemic either in this country or on the Continent of Europe, or it would have been better known and understood. That on that occasion it travelled slowly from east to west is also quite compatible with an earlier existence. The subject of propagation by human intercourse is not alluded to by Tralles; but there is nothing in the view of an early origin of cholera which forbids the supposition that the disease may be communicated from one individual to another, and that this power of communication may be aided by that which has been designated an epidemic influence, *i. e.* by such seasons as we have had in 1832 and 1849. The disease might have arisen in England, and been carried eastward to Asia. In Europe and Asia it has taken all directions of the compass; and if before 1817 in Asia, and before 1829 in Europe, it did not spread over large tracts of country, this must be assigned to the absence of causes favourable to its propagation.

We have now before us an ancient record of the mortality caused by the *Plague* in London between the years 1629 and 1659.* The fluctuations of the annual mortality from this terrible disease are quite remarkable. In 1629, 1633, and 1635, there was not a single death from the plague: in the year following, *i. e.* in 1636, there were 10,400 deaths! The Plague had its periods of outbreak and cessation. Medical men living and practising between the years 1649 and 1660 could have known but little of the disease practically, the cases being annually very few. The Great Plague of 1664-5, which destroyed in five weeks 38,000 persons, occurred three years subsequently to the old record from which

* Natural and Political Observations mentioned in a following Index and made upon the Bills of Mortality by John Graunt. London 1662.

we are now quoting, and caused attention to be for the first time especially fixed upon this malignant disease. So it may be with the visitations of malignant Cholera. The yearly deaths from the Plague between 1629 and 1665 excited no particular attention, although in 1636 it destroyed 10,400 persons; and eleven years afterwards, *i. e.* in 1647, 3597 persons; and seventeen years subsequently, *i. e.* in 1664-5, it destroyed forty thousand persons! It is not a little singular that the pause or cessation of the present cholera in this country has thus corresponded in time with the interval at which the plage produced the greatest amount of mortality in the metropolis in the seventeenth century. Is this to be regarded as a mere coincidence, or is it evidence in favour of the existence of cycles or periods of activity in devastating epidemics? If there be more than a coincidence in it, the Cholera may be again expected to shew itself in a fatal form in the year 1865. The Plague has been for many years unknown in England, and the malignant Cholera had lain dormant for so long a period as to induce many to believe that its first appearance dated only from the year 1832.

In Graunt's Tables of Mortality for London we find recorded the number of deaths from *eighty* different causes between the years 1629 and 1660. Cholera is not mentioned among them. We find "*Bloudy Flux, Scouring* and *Flux*," comprising, as it is now believed, *Dysentery* and *Diarrhœa*, to which during this period 7818 deaths are assigned. Next to the Plague, however, there is set down another fatal disease, namely, "*Plague in the Guts*," respecting which the author tells us:—

"The Diseases, which beside the *Plague*, make years unhealthfull in this City are *Spotted Feavers, Small Pox, Dysentery*, called by some *The Plague in the Guts*, and the unhealthfull Season is the Autumn."—p. 41.

We are inclined to regard the disease set down as "Plague in the Guts" as the Cholera in its malignant form, Dysentery being separately entered under the title of "Bloudy Flux." The first fatal case from the disease is recorded in 1650. We subjoin a table constructed from the Table of Casualties given by Graunt:—

Deaths in London from Plague in the Guts. (Cholera.)

1650	1	1656	315
1651	0	1657	446
1652	110	1658	0
1653	32	1659	253
1654	0	1660	402
1655	87		

When these tables were brought to a close, the deaths from the disease were evidently on the increase.

In order that the reader may compare this mortality with that which is now occurring from cholera, we give the burials and christenings in London for the first and last years of the series:—

In 1650.

	Buried.	Christened.
Males	4548	2890
Females	4216	2722
Total	8764	5612

In 1660.

Males	7960	3724
Females	7158	3247
Total	15118	6971

In 1660, one death out of *thirty-seven* was occasioned by this disease.

In subsequent years, 1670 and 1699, Plague in the Guts, or Epidemic Cholera, appears to have spread great devastation in the metropolis. Dr. Tralles remarks:—

"Talem cholericam epidemiam inter alios *Willisius* habet, qui dysenteriam incruentam (*ita ipsi choleram appellare visum est*)

Londini, a. 1670. immani ferocia populariter grassatam describit atque in aërem culpam omnem coniicit, quem liquori nerueo vitium affricasse putat, quod ipsum concesserim lubens quando actionem primariam stimuli epidemici in villos neruosos mente concipio. Non minus ciuis eius *Thomas Sydenham* ad morborum epidemicorum autumnalium familiam choleram a. 1669. grauius multo quam antehac grassatam refert, statuitque in aëre peculiaris mensis peculiare quippiam esse reconditum, quod specificam alterationem soli huic morbo adaptatam, vel cruori, vel ventriculi fermento valeat imprimere. Neque tamen saltem quatenus miasmata maligna neruosis nostris partibus inimica continet, aer Cholerae genesi aptus censendus est; sed eundem morbum solo excessu sui caloris excludere valet, maxime si inde aestuans corpus subitaneam refrigerii vicissitudinem experiatur. Eiusque modi choleram epidemicam habet *Lentilius*, cuique causam in tempus pluuiosum et vna calidum, potumque liberalem ingurgitationem reiicit. Sed et per frigus admissum exterioribus corporis, acre calore in succis eiusque genitum constricta cute, ad interiora propelli, et vrgeri, ibidemque morbum hunc tum excludi posse, statuendum est, cum experientia id nimis doceat." (p. 183.)

Such is the evidence upon which we are inclined to regard the present visitation as only the outbreak of a disease, in a severe epidemic form, which had been long since known in Europe, but which had been so long latent as to cause almost its existence to be forgotten, and to induce many of our best physicians to believe that until 1832 it was a stranger to the catalogue of English or even European maladies. At another time we propose to compare ancient with modern treatment.

The total deaths, as well as the deaths from Cholera, have during the last week undergone a considerable diminution, and, with a few exceptions, the pestilence has abated in those provincial towns in which its ravages have been most extensive. The deaths from Cholera in the metropolis for the week ending Sept. 29th were 434: in the previous week they were 839. The reduction is therefore nearly fifty per cent. The ages of those who died from the disease were as follows :—

Under 15 yrs.	Between 15 and 60.	Above 60.
106	259	68

The average daily mortality has been 62.

	Deaths from cholera.	
September 26.		
In London and vicinity . .	69	
In England and Wales . .	321	
In Scotland	27	
	——	417
September 27.		
In London and vicinity . .	64	
In England and Wales . .	321	
In Scotland	39	
	——	424
September 28.		
In London and vicinity . .	53	
September 29.		
In London and vicinity . .	67	
In England and Wales . .	590	
In Scotland	29	
	——	686
September 30.		
(No return.)		
October 1.		
In London and vicinity . .	60	
In England and Wales . .	305	
In Scotland	38	
	——	403
October 2.		
In London and vicinity . .	64	
In England and Wales . .	370	
In Scotland	50	
	——	484

DISINTERESTED CHARACTER OF THE TRUE PHYSICIAN.

Adverting to the vulgar notion that money is the primary object with physicians, Dr. Stevens cites the immense number of charitable institutions and private individuals whom they serve gratuitously, the straitened circumstances in which most physicians leave their families, and the readiness with which medical discoveries and inventions, which might make the fortunes of individuals, are thrown open to all the world. When some attempt was made to patent the invention of anæsthetic inhalation, "the indignation of the profession was roused from one end of the country to the other." But, "if the pecuniary rewards of physicians are so small compared with the expenses of their education and the severity of their labours, why are so many ready to enter the medical profession? I answer, because the study of it is so delightful; and because the practice brings with it higher rewards than money can bestow. Who that feels that life is saved or prolonged by his skill, does not receive a reward? Who that has felt the warm tear of gratitude for rescuing from death a husband, a wife, or child, would wish to be other than a physician?"—*American Journal of the Medical Sciences.*

Reviews.

Elements of Electro-Biology, or the Voltaic Mechanism of Man; Electro-Pathology, Therapeutics, &c. By Alfred Smee, F.R.S. &c. 8vo. pp. 164, with illustrations. London: Longmans; and Horne and Thornthwaite. 1849.

We are fairly bewildered by this book, and hardly know in what form to present a notion of its contents to our readers. The subject is to a great extent new, and the nomenclature is so novel, that the elaborate Lexicon of Strauss entirely fails us as a guide. We must first of all endeavour to separate Mr. Smee's facts from his theories, and try to work our way by the aid of common terms. The book professes to present us with a voltaic view of man. A human being is throughout regarded as a living moving battery of a complex kind,—in fact, as composed of a multiplicity of batteries rolled into one. Electricity, magnetism, light, and caloric, must be one, or all evolved, according to the author, by every shake of the hand, or even by a sneeze. The electric fluid is at work and probably oozing from our fingers' ends while penning these lines. The mere motion of a foot may evolve enough to affect a galvanometer. By means of the following ingenious experiment, Mr. Smee was able to prove that an electric current was formed or rather that electricity was evolved during muscular action :—

"The first animal which was honoured was a black rabbit, into the masseter of which I introduced one sewing needle, whilst the second was placed in the subcutaneous cellular tissue. After leaving them for a few minutes, so that they might be in the same state, they were connected with the galvanometer, without sensible deflection of the needle. After a few moments, the animal, not liking its treatment, made an attempt to bite my finger, and the deflection of the galvanometer instantly showed the mechanism of volition. I then gave the creature a piece of wood to bite, upon which it used all its power of mastication, and by catching the oscillation of the needle, a very powerful current was exhibited. In this experiment, the deflection of the needle in the electro-voltaic circuit proved the existence of a voltaic current passing through the parts during the action of biting; and did thus denote the mechanism of the force employed to throw the muscles into operation." (p. 7.)

The author considers that the muscular substance forms one pole, the cutaneous tissue the other, and that the serous fluid which lubricates the parts is the electrolyte. The whole constitutes what he calls a peripheral battery. The muscles and the skin communicate with the brain by distinct sets of nerves which are not themselves immediately connected in the brain: hence, according to the laws of voltaic action, another battery exists there which may be termed the central battery.

"For the continuance of animal life it is necessary to have an integrity in the central and peripheral batteries; both requiring to be properly supplied with the normal exciting fluid or blood. The poles of these respective batteries are connected by the nerves, to form one consistent whole, which I shall always hereafter mention under the term of electro-biological circuit. For the integrity of this circuit, it is essential that the peripheral and central batteries be perfect, that their connection be maintained, and that a proper exciting fluid, or bright arterial blood, be distributed to each part." (p. 9.)

If the blood be in insufficient quantity, or its quality be deteriorated, the action of the peripheral and central batteries is stopped, just as in the case of the common voltaic battery insufficiently charged or provided with an imperfectly exciting fluid. This would give rise to the phenomena of death.

In the chapter on Electro-aesthenics, Mr. Smee endeavours to show that the action of the senses is dependent on the establishment of a voltaic current; and that the retina, as well as the membrane lining the cochlea of the ear, is formed of a congeries of poles, capable of being excited by the conditions known as light and sound. One of the most astounding statements is, however, that which we meet with in the section on Electro-pnemonics, in which it is attempted to be proved that *memory* is also a voltaic phenomenon, and is capable of being imitated in the galvanic battery :—

"When a man receives an impression, it is not evanescent, passing immediately away, but it is retained in the system to regulate future actions. Now, in voltaic constructions, it is not difficult to produce an action

which shall influence future motions, and thus exhibit the effects of memory. If we take two iron wires, and place them in a solution of argento-cyanide of potassium, and direct a voltaic current through them, silver would be reduced at that wire constituting the negative pole. The two wires would be ever afterwards in different electric relations to each other: one would be positive, the other negative; and thus the effects of memory would be shown, and future actions regulated." (p. 30-31.)

We must admit that we cannot perceive the slightest analogy between the mental and physical conditions which are here made the subject of comparison. All our feelings are by a similar process of reasoning alleged to depend on animal voltaic action. Thus the author sets down *desire* as a voltaic phenomenon:—

"The faculty of desiring resolves itself into a tendency to act, and is manifested when the central batteries are in a condition of excitement. Desire is to mental operations similar in all respects to tension in electric arrangements. When the desire is gratified it ceases for a time. This phenomenon is similar to an exhausted battery, in which arrangements exist for replenishing the exciting fluid; as in this case, after a time, the battery would again become active and exhibit tension, which I have, in my courses of physics, described as a desire for action ungratified." (p. 39.)

Here again we are at a total loss to perceive the alleged similarity. The desire to possess what belongs to another, manifested by a violation of the eighth commandment, may, if this doctrine be admitted, be fairly pleaded in favour of a starving man who steals a loaf from a baker's shop. His "central batteries" may be in such a condition of excitement that he cannot control the tendency to take the loaf which is absolutely necessary for replenishing them. If this theory be true, it appears to us that such persons ought to be acquitted on the ground of their having reached a *voltaic climax*.

Mr. Smee is to a certain extent an advocate of the doctrine of epigenesis, and it must be admitted that considerable mystery hangs over the origin and production of hydatids, echinococci, and other parasites found in the human body. How is their existence in the tissues or organs to be explained or understood? At present we are in want of any consistent theory to account for their occasional existence in the organism. Mr. Smee has not succeeded in producing from mineral substances by the agency of electricity, the acari alleged to have been evolved in the experiments of Messrs. Cross and Weekes. As he is a good authority on the subject of electricity, we take this as a strong proof of the correctness of the general opinion of naturalists, that these gentlemen have been deceived by their experiments: a fallacy which had escaped their notice must have crept in somewhere. We transcribe a paragraph from Mr. Smee's work in reference to this curious subject:—

"It becomes now a matter for investigation, how far a totally different organic being may spring from another organic body made up of cells. In practice, we find that animals are found in internal parts of other animals, where by no possibility (?) they could have been carried, either in the form of an egg or of a living creature. We find also, that from organic matter, other organic matters are continually arising, without proof of any seed or germ having been placed there. From these considerations we are led to inquire, whether external forces may so act upon the cell as to give rise to a totally different form of organisation. It still remains, however, an unsolved question whether parasitic fungi, as that found in the ringworm of man, parasitic creatures, as the *echinococcus hominis*, the tape-worms, and other bodies, are produced by virtue of the cells of the human being taking on new forces, and aggregating in new directions; or whether the germs are carried there in some unknown method. The only experiments which bear upon this question are those performed by Cross and Weeks, who state that by subjecting various solutions to the action of the voltaic force, certain acari made their appearance; the acarus found by Weekes differing from that observed by Cross. Now, I tried somewhat similar experiments to see if any creature appeared, but have never observed anything of the kind which could at all be traced to voltaic origin. But these experiments deserve frequent repetition by those who have the abundant funds of rich institutions at their disposal."* (p. 74-6.)

In the second part of the work, the author enters upon the subject of the therapeutical applications of electricity. Many of his suggestions are ingenious, *e. g.*, the mode of detecting the situa-

* I have just received a letter from Mr. Weekes, stating that he has lately observed two more species of acari produced from other solutions.

tion of needles accidentally introduced into the body. (p. 114). In most cases, however, his remarks on treatment are so mixed up with his theory of the central and peripheral batteries, as to create a feeling of distrust respecting the soundness of his suggestions. Our readers will be amused with the new application of electricity as a vermifuge:—

"The occurrence of Entozoa throughout the various parts of the animal economy certainly presents most remarkable instances of generation. Their occurrence should cause us to weigh deeply the value of electricity in favouring the development of living creatures; for, certainly, the presence of some of these creatures is totally unaccountable on any probable hypothesis. Some time ago, a patient of mine had a most unruly tapeworm, which would not be killed by processes amply sufficient to have destroyed abundance of other creatures of a similar class. As the patient had already received the very best treatment from able surgeons, and had also tried every line of treatment under my care, I determined to apply electricity, with the view of destroying it. For this purpose, the current was passed from the internal parts of the anus to the surface of the stomach; and we employed as much force as the boy could possibly bear, continuing the operation for a short period on several occasions. A few joints of the worm came away subsequently; but in my opinion no more than might be accounted for upon other hypotheses. This case was tried some years ago, and the to-and-fro current was employed; and, therefore, if the experiment were repeated upon a similar indestructible worm, it might be as well to use the electro-magnetic and magneto-electric machine. As this mode of employing electricity is attended with considerable pain, it would be folly to think of using it till other known modes of cure had failed. With respect to other Entozoa, or Parasites, I know no other instance where electricity has been used for their destruction." (p. 129-30.)

At page 102 the author says—"In this work I have *demonstrated* that the functions of animal life are really voltaic." Demonstration implies specific proof, and we confess we cannot join our author in thinking that he has succeeded in attaining this satisfactory result of intellectual labour. He has worked in too narrow a circle, and on taking a wider view of the human organism his alleged proofs wholly fail to convince us of the correctness of his views. Thus, two of the most important functions of animal life are manifested in the processes of growth and reparation; and if this electro-biological hypothesis have any truth, and the argument from analogy any fair application to such a case, we ought to have some proof of the existence of these processes in common voltaic combinations. If a man be constituted of a central and a peripheral battery, on the constant action of which, volition, desire, motion, and sensation, depend: if life be nothing more than this, how are we to account for *growth* and *reparation?* A child becomes converted into a man by a regular process of equal and symmetrical development. Can a six-celled battery spontaneously increase into a twelve-celled battery, preserving at the same time the proper relations and proportions of its elements? A bone is broken and again repaired by osseous deposit. Do cracks in voltaic batteries, or the breakages of a voltaic current, repair and readjust themselves? If such things happen, we *pro tanto* abandon our objections to these extraordinary doctrines: if they do not happen, we maintain that the *demonstration* of the functions of animal life being really voltaic, utterly fails.

All that we can admit the author to have proved is, that under muscular contraction electricity is evolved; in other animal operations, heat, light, and magnetism, may be equally elicited. The making out a resemblance to a battery is a mere idea. By a constrained application of language, we may call muscle and skin poles, the nerves conductors, and the serous fluid an electrolyte, but in using these terms there is no *demonstration* that they are what they are thus imagined to be, nor can we find any facts which do not admit of another and more simple explanation than that suggested by the author. That the functions of animal life depend on voltaic agency and polarity is by no means a new idea. It was brought forward at least thirty-two years ago by Dr. Niccola Pilla, of Naples; and we thought it had been refuted from its inadequacy to account for *all* or even the greater part of the phenomena manifested by living bodies.*

* Mr. Smee has most probably not seen the work of Dr. Pilla, and we here quote the statements of the author from the original:—

"Chi sa se l'Opera della Circolazione del san-

Theorists are fond of comparing a *few* selected facts, and then asserting the identity of the *whole;* but an analogy ought to be true throughout, or it cannot lend support to a new theory. Admitting the truth of all the other postulates, the fact that voltaic action cannot under any circumstances account for animal growth, is a proof that the theory is quite inadequate to explain the phenomena of life.

We regret that we have not been able to speak more favourably of the work of an author who has acquired a fair and well-deserved reputation for his improvements in electrical apparatus. His essay abounds in startling novelties, but it is not, in our judgment, calculated to convey profitable information.

A Dissertation upon Dislocations and Fractures of the Clavicle and Shoulder-joint; being the Jacksonian Essay for 1846. By THOMAS CALLAWAY, F.R.C.S. &c. 8vo. pp. 178. London: Highley. 1849.

THIS essay, to which has deservedly been awarded the high testimony to its merits indicated on its title-page, presents us with a very complete account of the various injuries to which the shoulder-joint is exposed, and contains much valuable practical matter under the head of treatment. The first portion of the work comprises a sufficiently minute anatomical sketch of the parts concerned. This is followed by an account of fractures of the clavicle; succeeded by the history of fractures and dislocations of the clavicle, scapula, and humerus.

The points on which the author more especially claims originality of views are those of injuries to the long head of the biceps, and fractures of the head of the humerus.

The volume contains several instructive cases illustrative of particular points of surgery, and embracing much information that has hitherto been distributed in periodicals, with reference to the subject of which it treats. While we allow that the author has here produced a very useful monograph, we cannot in justice pass over a blemish which conspicuously pervades every page of his book: this is, the perpetual use of the "first person singular." Let the reader open the treatise at hazard, and the probability is that in every page he may chance to examine, he will encounter such an array of I's as will excite no little surprise. Although the author is here, to use his own words, working "a field which has been gleaned by preceding surgeons of great renown and intelligence with diligent and scrutinizing eye," there may still be rich gleanings left for their followers. Nevertheless, we cannot but express our wonder that one who has derived the greatest part of his own knowledge from those previous "gleaners," should permit himself to hold the language of the accompanying extract, which we have quoted from amongst many similar examples of the fault to which we now direct attention. Speaking of the deformity incurred in fractures of the clavicle, Mr. Callaway observes—"The opinion of nearly all English surgeons is embodied by Mr. Samuel Cooper. . . . . Mr. Cooper here makes

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gue non fosse, che il sangue venoso negativo di sua natura venghi *attratto* al *polo* positivo, la di cui sede potrebbe credersi nel cuore, ove equilibratosi nel momento di passare alle arterie, tosto per queste stesse venghi respinto dal *polo* centrale, e che il sangue arterioso caricato così di Galvanismo in circolazione per il *polo* negativo generale, diffonda il fluido per gli organi di tal natura, sicchè in passando alle vene si trova il sangue di nuovo negativo per essere di nuovo *attratto* al *polo* positivo? Chi sa se le *diastoli*, e le *sistoli* non siano che le alternative delle *attrazioni*, e delle *ripulsioni* del liquido or *negativo*, or *positivo?* Chi sa se ciascuno de' visceri animali non avesse la propria *polarità*, d' onde le rispettive funzioni, alle quali ciascuno di loro è addetto? Chi sa se le secrezioni anlmali non siano il risultato delle operazioni di tal natura? E prima che la Chimica animale ci rischiari, non siamo noi sicuri fin da ora della *polarità* positiva de' *moti assoluti volontarj*, consultando solo il nostro proprio *sentimento* che ne' moti di tal natura non è muto per noi, come lo è ne'moti involontarj? Non sentiamo noi, non riconosciamo noi, che una tal sede esiste nel cerebro sede dell' *anima*, ovvero della *volontà*, che li delibera? Tutto dunque concorre a provare, anche nello stato attuale delle nostre cognizioni, che i movimenti animali *assoluti* sono l' opera de' giuochi delle *polarità* generali, e parziali, più o meno intense, erranti, o fisse, secondo la natura de' movimenti de' quali si tratta; e che non resta, che raccomandar loro alle cure della Chimica animale, perchè fossero conosciute in dettaglio, e perchè si potessero valutare i loro *rapporti*, e calcolare le loro *potenze*. Non credo troppo lontano il tempo di una *rivoluzione*, che anderà a subire la medicina, e che sarà grande, e memorabile nei suoi fasti. Non si tratta più di stabilire, come una volta, le *Tavole* delle affinità chimiche con un metodo stazionario per non terminarle giammai, ma di costruirle cola *pila Voltanica*, metodo spedito, e garante del successo."—*Il Galvanismo nel suo rapporto colla Riproduzione Animale Del Dottor Signor Pilla. Napoli* 1817.

no mention of the subclavius muscle: I *think it would have a material effect upon the broken bone.*" (p. 52.) In another place, speaking of the action of the sterno-cleido muscle in the same accident, he remarks—"Mr. Lonsdale says, 'The muscle, no doubt, has the power of doing so to a slight extent;' but *I* do not think it ever acts sufficiently in these cases to make it important enough to pay any attention to it."

Again, in the following observation, the author has, we think, mistaken the records of common experience for the acquisition of individual superiority of discrimination:—"I have even known the cracking of the joint mistaken for crepitus."

This intolerable predominance of the personal pronoun might, to a certain extent, be excusable in a manuscript essay submitted for a prize competition; but when the successful essay is published as a Treatise, it would have been becoming in the author had he carefully revised it, and struck out these egotistical passages. We trust that the comment now made may induce the author to correct, in any future works, a fault which is always damaging to the reputation of a young member of the profession, whatever may be his talents or opportunities.

On the Treatment of Rheumatic Disease by Lemon Juice; with Illustrative Cases from Hospital Practice. By G. Owen Rees, M.D., F.R.S. &c. Pamphlet, 8vo. pp. 38. London: Longmans. 1849.

In our last volume (p. 156), Dr. Rees notices the beneficial effects of lemon juice in rheumatic gout; in the pamphlet before us he presents the profession with his further experience of its utility in rheumatic disease generally, more especially in acute rheumatism. Dr. Rees has found this remedy eminently useful in the latter form of the disease, and an equal amount of success has been obtained by other practitioners who have given it a trial.

Eight cases in which lemon juice was employed are narrated by Dr. Rees, in order to illustrate its mode of action. Its effects are directly to depress the force and number of the pulse, and to increase the amount of solid matters evacuated by the urine. The theory of its mode of action suggested by Dr. Rees is, that it supplies a large quantity of oxygen for the transformation of the tissues.

It is to be hoped that the observations of Dr. Rees will receive from the profession that degree of attention to which, from his high repute, they are fairly entitled.

The Closing Years of Dean Swift's Life. By W. R. Wilde, M.R.I.A. 2nd edition, 8vo. pp. 164. Hodges and Smith, Dublin. 1849.

We have so recently noticed this interesting volume in its medical aspects, that it is unnecessary for us to do more on the present occasion, than to announce the appearance of a second edition. It has undergone a careful revision, and will be found an acceptable addition to the libraries of those medical practitioners who take a delight in literary and antiquarian researches.

Hospital and Infirmary Reports.

CHICHESTER INFIRMARY.

Case of Calculus in the bladder (encysted)—Operation of Lithotomy—Death.

(*Reported by* Mr. Newham, House Surgeon.)

William Bridger, æt. 58, admitted into this infirmary July 31st, 1849, under Dr. Duke. States that one or two members of his family are subject to "the gravel."

Some three or four years ago was seized with intense pain in the loins, so severe as to produce sickness and fainting. In the course of an hour this passed off, and left him quite well. From this time he passed a considerable quantity of red sand daily, attended occasionally with severe pain at the end of the penis. He, however, continued his work until three months ago, when he experienced an attack of retention of urine, to relieve which a catheter was passed by a surgeon, and his water drawn off. This symptom recurred again two or three times, requiring always the same treatment. I am informed by the gentleman in attendance upon him, that he never at any time detected a calculus.

Three weeks since he suffered for four days with hæmaturia.

On admission.—His appearance is that of a healthy man, and his symptoms do not

distress him much. His pulse is slow, and of moderate power. Appetite good. There is but little irritation in the urinary organs. Urine acid, and loaded with the lithates.

A sound was introduced into the bladder, and without any difficulty; a calculus was detected, which apparently was moveable, and hard. Bladder small, but not indicating any disease.

There is also a slight aortic bruit with the systole of the heart.

Ordered—Potas. Bicarb. gr. x.; Tinct. Hyosc. ℥xv.; Mist. Mucilag. ℥j. t. d.

From this time, until August 10th, his symptoms became much aggravated. The most distressing of these was retention of urine, requiring the use of the catheter. When this instrument arrived at the neck of the bladder, the patient invariably cried out, and said "that something was moved away." A sensation of the same kind was also conveyed to the hand of the operator, and there could be no doubt that this was produced by a stone.

He now took large quantities of opium (sometimes amounting to 6 grains in the 24 hours), and rapidly lost strength and flesh. Accordingly, the operation of lithotomy was proposed, and to the performance of this he cheerfully consented.

August 10th.—After the usual preparation he was placed upon the table. Wishing to have chloroform, it was administered, but after a few seconds he rejected it, and determined to go through the operation without this agent.

The first incision was made by Dr. Duke in the usual way, and after opening the urethra a bistouri caché was introduced to divide the prostate. When this was done, a slight gush of urine took place.

The forceps being passed into the bladder, no stone could be felt in any part. Thinking it might be smaller than anticipated, Dr. Duke used the scoop, and with this instrument he distinctly felt the calculus, but grasped in such a manner by the bladder as to be quite immoveable.

A considerable quantity of venous hæmorrhage occurred, and rendered the patient so weak as to require some brandy.

I have omitted to mention that the calculus was distinctly felt (by sound) prior to the first incision by the senior surgeon, Mr. Elliott, and also by the house-surgeon, and by another surgeon present.

Throughout the operation the greatest gentleness was observed in the use of the different instruments, and the bladder was washed out twice through the opening. The operation lasted one hour and forty minutes; and after sounding him through the wound, and nothing being felt, he was removed from the table.

Pulse 120, and weak. Feels exhausted, but not to any great degree. Liq. Opii Sed. ℥xl. statim.

A gum-elastic tube was also passed into the bladder through the external incision, and confined in its position by tapes.

Vespere.—Feels very easy and comfortable. No urine has yet passed. Pulse 110, and feeble. Tongue moist and clean; skin acting well, and he feels inclined to sleep.

11th.—Urine has passed, both *through* and by the side of the tube. There is considerable smarting of the wound, which, however, looks healthy. Has slept a little. Pulse 100, and fuller. No tenderness of the abdomen. Bowels not open.

Ordered.—Tinct. Opii, ℥x.; Mist. Salinæ, ℥j. 4tis horis.

13th.—Is very quiet. Tongue clean, but rather parched. Feels his appetite returning. No pain in the abdomen. Bowels not open. Pulse 100, but much weaker.

An injection was administered per anum, and on returning brought with it a few scybalæ.

Ordered.—To have Chicken; Vin. Rubri et Sp. Vin. Gallici ad libitum.

15th.—Symptoms much the same. Urine pains him a good deal, and passes in small quantities by the natural passage. Pulse 100, and still weaker. Has been purged twice during the night. A sound was passed through the wound into the bladder by Dr. Duke, but no stone could be detected. Wound looks healthy externally, but rather sloughy internally. The tube was removed last night. Ordered to continue wine and brandy.

The diarrhœa continued in spite of every remedy. The patient gradually got weaker, notwithstanding wine, bark, and ammonia, &c., were freely administered, and died, August 17th, at 2 P.M.

Post-mortem twenty hours after death.

Head.—Not examined.

Thorax.—Lungs perfectly healthy. Aortic valves very slightly ossified.

Abdomen.—Liver healthy. Kidneys large and flabby. Investing membrane detached with difficulty. Not any trace of peritonitis in any portion of the cavity or of its contents. The symphysis pubis on either side, and the rami, being sawn through, the bladder and a portion of the urethra were taken out and examined: it was firmly contracted; the cavity very small; mucous membrane sloughy. No stone could be seen. The walls at the posterior part, and rather to the right side, were observed to be much thickened, and were cut into. A sac (containing four calculi of about the size of broad beans) was now exposed. It appeared to be adventitious, and communicated with the cavity of the bladder by a small opening. By the side of this opening was a deposit

of cerebriform matter as large as a pigeon's egg, and apparently in the walls of the bladder. A nipple-like projection of this malignant growth covered the opening so completely as to prevent the stones being seen when the bladder was first opened.

The prostate was enlarged; and the incision made by the operator was all that could be wished.

Ureters were of large calibre, particularly the right.

Remarks.—It is the duty of every medical man to lay before his professional brethren, not only the successful cases, but also unsuccessful ones; provided of course that they convey any practical information. Under this impression I have not omitted one iota of the foregoing most instructive case.

It is a curious circumstance that the stone should have been felt so distinctly prior to the operation, and yet have eluded all search after the bladder was opened. It is not improbable that one of the calculi was partially disengaged from the sac, but under the stimulus of the knife that the bladder suddenly contracted, causing the stone to be pushed back into its original situation, by the mammillary process of malignant disease mentioned above. The post-mortem examination also clearly explains why the stone should have been felt by the scoop and not by the forceps.

My reason for supposing the cyst to be an adventitious one is, that the bladder was suddenly thickened at the seat of the sac; and the opinion I formed when I saw it was, that the internal and middle coats of the bladder had been ruptured, and that nature, to obviate any giving way of the peritoneal coat, had caused a deposit of organizable matter to defend this particular spot.

Instances of sacculated calculi are not rare; but I think a case similar to the one detailed is not on record. Obscurity in this case was rendered doubly obscure by the mouth of the sac being so effectually closed by an abnormal growth.

One thing now only remains to be commented upon, viz. the length of time occupied by the operation:—The opening of the bladder (although rendered more difficult by a deep perinæum) was completed in less than one minute; therefore the remainder of the time was occupied in searching for the calculus. I would ask the question—Would any man send away a patient from the operating room until he had not only satisfied himself, but others, that all the means which art affords had been tried? a due regard being had of course to the state of the patient. This man did not become at all faint until a few minutes before he was put to bed, and therefore, although the time may appear inordinately long, yet in every case we must be governed by circumstances, and while a man's *vis vitæ* remains good, I think any surgeon is justified in using all the means in his power, and more especially when there has been no doubt whatever, previous to the operation, as to the existence of stone.

Correspondence.

THE QUERIES OF THE COLLEGE OF PHYSICIANS.—THE TREATMENT OF CHOLERAIC DIARRHŒA.

Sir,—Your invitation to the general practitioners of medicine to reply to the Queries proposed by the Royal College of Physicians exclusively to its members, respecting the efficacy of the several remedies now used in the treatment of Cholera, induces me to submit a few observations on that disease, which I trust will not be deemed altogether useless.

Within the last three or four weeks I have been many times hastily summoned to patients of both sexes, generally young persons, or those not past middle age, and previously in good health, who have been suddenly attacked with diarrhœa and vomiting to an alarming extent. The attack has usually commenced during the night, and I have almost invariably seen the patient within three or four hours of its commencement: the appearances then were, a pallid and anxious countenance; surface moist, and much colder than natural, particularly the hands and feet; pulse small, and very rapid, in many cases scarcely perceptible; violent pain in the stomach and bowels, attended with great thirst, uncontrollable diarrhœa, and constant efforts to vomit. The first discharges appeared to be merely the contents of the stomach and large intestines; afterwards a turbid and watery fluid from the bowels, and the matter vomited little else than the fluid taken to allay thirst. I have never seen bile evacuated either upwards or downwards. I have treated these cases with small doses of mercury and opium combined with aromatics, and the volatile alkali, according to the following formula:—

℞ Pulv. Ipecac. Comp., Hydrarg. c. Creta, aa. ℈j.; Syr. q. s. ft. massa in pilulas vj. dividenda, quarum sumatur una 3tiis vel 4tis horis, cum coch. ij. Misturæ seq.

℞ Pulv. pro Conf. Aromat. ʒj.; Sp. Ammon. Comp. ʒiiss.; Aq. Menth. piperitis, ʒvj. M.

Bottles of hot water, or bags of hot sand, to be applied to the feet, and, when the

pain is very severe, the abdomen to be rubbed with Linimentum Terebinthinæ, and covered with a hot flannel. The first dose of medicine is sometimes rejected: in this case I repeat the pill immediately, and a dose of the mixture half an hour afterwards. The sickness and diarrhœa very speedily abate, and I have seldom found it necessary to continue this treatment longer than thirty-six or forty-eight hours: a sensation of great weakness, and slight vertigo, generally follow, but these symptoms readily yield to a few doses of quinine.

I have seen no patient in a state of collapse; neither have I observed any interruption to the functions of the kidneys. These cases may probably be pronounced nothing more than diarrhœa; but, had not this diarrhœa been checked, in my opinion true cholera, and its too frequent consequence, death, would have been the result.

With regard to the Queries, I must observe—

1st. I have no reason to believe that the disease is either of a contagious or infectious nature, as I have seldom seen more than one person in a family attacked.

2d. The patients whom I have seen have not inhabited dark or ill-ventilated houses. The village of Castle Hedingham is situated in a valley, through which the river Colne takes a south-west course, the principal street ranging very nearly east and west; the soil a rich loam upon a gravelly bed, producing excellent corn: hops, in considerable quantities, are also grown here. The labouring men are employed in agriculture; the women and children in straw-plait. The place is plentifully supplied with excellent water.

3d. I am aware of no particular state of body or mind predisposing to the disease; but, from the attack usually commencing in the night, bodily fatigue during the previous day may have had a share in its production.

4th. The symptoms I have already described.

5th. As already observed, I suspect these sudden attacks of diarrhœa,—attended with a pallid, moist skin, coldness of extremities, feeble pulse, and great thirst,—would, if not checked, terminate in cholera.

5th. Small and frequently-repeated doses of mercury combined with opium, aromatics, and volatile alkali, have always checked the diarrhœa.

7th. I can state no facts in answer to this query. The suddenness of the attack, the pallid, anxious countenance, feeble pulse, and general depression, would lead us to suspect some serious organic lesion within the abdomen; but the speedy and complete recovery prove that no such lesion had existed, and that the disease was merely functional. That the functions of the liver are suspended, is proved by the absence of bile from the evacuations: that the blood is not decarbonized in the lungs, is proved by the coldness and palior of the surface. The sudden suppression of the functions of these two important organs is sufficient to account for the symptoms; but what has been the cause of this sudden suppression of their functions I am unable to determine.

Your obedient servant,
GEORGE HARVEY,
Surgeon.

Castle Hedingham, Essex,
Sept. 25, 1849.

REMOVAL OF A FOREIGN BODY FROM THE MEATUS.

SIR,—A few days since, I removed from the ear of a lady a damson stone, which had lain in the meatus auditorius for upwards of forty years. The stone itself was entire, was dark coloured, and was partially covered by a coating of altered cerumen. Between the membrana tympani and the stone was a quantity of extremely viscid secretion, behind which the membrana tympani was found to be quite healthy.

The symptoms had been so trivial, and the inconvenience so slight, for some years, as to cause my patient to feel some doubt as to the presence of any foreign body; as, although partially deaf on that side, she had never experienced any further inconvenience beyond an occasional discharge of thin ceruminous matter.

I have ventured to trouble you with this communication, as it is rare to have an *authentic* example of a foreign body remaining very long in the meatus without causing mischief to the membrana tympani.

I am, sir,
Yours obediently,
OSCAR M. P. CLAYTON.

3, Percy Street, Bedford Square,
Sept. 29, 1849.

Medical Trials and Inquests.

APOTHECARIES' ACT AND COUNTY COURTS, ACTION AGAINST AN ILLEGAL PRACTITIONER.

County Court of Berks—Hungerford.

Before J. B. PARRY, ESQ., Q.C., (Judge).

The Apothecaries' Company v. *Thomas Bishop* (*jury case*).

MR. ASTLEY, for the defendant, took a preliminary objection that the action was not rightly brought, inasmuch as the Apothecaries' Act requires all proceedings to be instituted in the county where the offence is alleged to have been committed, and not

elsewhere. This action should have been brought in the county of Wilts.

Mr. ROWLAND contended that the action could not be brought in the county of Wilts, because the parish in which this offence is charged as having been committed is one of the parishes specially assigned to the jurisdiction of this court.

His HONOUR overruled the objection.

Mr. ROWLAND then opened the case. This was an action brought by the company for which he had the honour to appear, against the defendant, who resides at Ramsbury, in the county of Wilts, and, as they allege, was acting and practising as an apothecary there, without being legally qualified. The statute, under which the action was brought, was commonly called "The Apothecaries' Act," the 13th section of which provides, that after the 1st day of August, 1815, it shall not be lawful for any person or persons (except persons then in practice as such) to practise as an apothecary in any part of England or Wales, unless he has passed his examination, and received a certificate of his being duly qualified to practise. Of course, if his learned friend could produce such certificate, there was an end of the present case; but he should assume that he could not; and he would call the attention of the jury to the 20th section, which imposes a penalty of £20 for every offence against the Act. It was for such penalty that the present action was brought. The precise charge against the defendant was, for having, on divers days and times, between the 1st and 9th days of April, 1849, acted and practised as an apothecary in England—that is to say, at Ramsbury, in the county of Wilts, by then and there as such apothecary attending and advising, and furnishing and supplying, medicines to, and for the use of, one Henry Bayman. This patient was ill, and as he (Mr. Rowland) was instructed, was attended professionally by the defendant. He could not, unfortunately, call the patient before them; for, at the end of one short week from the time of his being taken ill, he had died. He should, however, call before the jury the sister and the mother of the deceased, who would state that the defendant had attended him in the manner described. He (Mr. Rowland) would not have addressed the jury at such a length in opening his case, were it not that his friend had very candidly told him that he should call no witnesses for the defence, and therefore he should not have a reply. He must, however, beg their particular attention to the difference between a surgeon and an apothecary, as laid down in the books, and defined as clearly as words could by Mr. Justice Cresswell (whose judgment he read) in the case of the "Apothecaries' Company v. Lotinga," reported in 2 Moody and Robinson, 495; and he should also call the attention of his honour to the case of the "Apothecaries' Company *v.* Greenough," in 1 Queen's Bench, reported 799; and to the case of "Alison *v.* Haydon," 4 Bingham, 619, which he handed up to the court. The defendant had not heeded the many warnings to cease from practising which had been given him by the company. They had, therefore, felt themselves bound, in justice to that profession of which they are the legal protectors, to institute the present proceedings. If, however, the jury, after hearing the evidence, should entertain any reasonable doubt upon the case, he would at once take upon himself the responsibility of asking them to give the defendant the benefit of that doubt, and to find the verdict for him; but if, on the other hand, they could not find room for a doubt, and he thought they could not, he must ask them, however painful it may be, to find their verdict for the plaintiffs.

ANN BAYMAN stated that she lived at Ramsbury, and is a daughter of John Bayman. Recollects her brother Henry being taken ill about a week before last Easter—that Mr. Bishop was sent for to attend him. He came, and said that her brother had inflammation of the lungs; that he sent her brother medicine, on one occasion by his servant, but that at other times she went to his house and fetched it; that when she went there she took an empty bottle; Mr. Bishop went into an inner room, and brought back the bottle with medicine in it. There was a lable on the bottle, on which was written how the medicine was to be taken; she could read it. Her brother was ill from Monday to Monday; Bishop attended all the time, and supplied medicine and a blister. Her brother got worse, and on the Easter Monday he died.

Cross-examined by Mr. ASTLEY.—Never saw Mr. Bishop make up the medicine; will not swear that it was medicine, as she never tasted it; she did not see her brother take it; will not swear that it was not wine; does not believe that Bishop went out of the house whilst she waited; she waited about five minutes; Bishop may have said her brother had the thrush; does not know what the thrush is; does not know that it is a surgical case.

Re-examined by Mr. ROWLAND.—To the best of her belief, what she had from Mr. Bishop's house was medicine. It was written on the label "two," and sometimes "three table spoonfuls" to be taken so many times a day.

SARAH BAYMAN recollects her son being taken ill in the spring of this year. She sent for Mr. Bishop to attend him. He came and supplied medicines, and said her son had inflammation on the lungs. She

sent the last witness to Mr. Bishop's for the medicine, and gave what was brought back to her son; believes it was medicine; has no reason to think it was wine. Her son was ill a week, and then died. Bishop attended him all the time.

Cross-examined by Mr. ASTLEY.—Mr. Bishop has sent in no bill for his attendance, but witness has paid him for medicine and attendance before; Bishop never asked for money, and when she paid him he did not say what it was for; never had a bill from him. Mr. Bishop has not his name on his door, nor "surgery," nor anything else written over it; it looks like a private house. Does not know the nature of her son's complaint; recollects his having had the thrush.

By the COURT.—There is a regular apothecary in the place; did not go to him, as one who was there formerly did not attend the poor properly. Bishop had attended her before, and given "good satisfaction."

Re-examined.—Hers is not the only family in the place which Mr. Bishop attends. Never had occasion to give him money for any other thing than for attending her family, and for medicine. The thrush is a complaint in the mouth; the blister was not applied to the mouth, but to the chest.

Mr. ROWLAND said that was the plaintiffs' case.

Mr. ASTLEY then took two objections, the first of which was, that it was a part of the plaintiffs' duty to show that the defendant was practising without a certificate, and this they had failed to do.

Mr. ROWLAND cited "Roscoe on Evidence," p. 72, where it is laid down as follows:—The proof of the certificate lies upon the defendant, and the plaintiff need offer no evidence of his practising without it."—Apothecaries' Company *v.* Bentley, R. and M., 159.

The COURT overruled the objection.

Mr. ASTLEY then contended that his client was entitled to a verdict, because the plaintiffs had not complied with the fifth section of the act of parliament, which laid down, "That no act done in pursuance of the statute should be valid, excepting the same were authorized by the said society, at a meeting specially holden within their Hall for that purpose." His friend should have produced a certificate, or some other evidence, that these proceedings were authorized at a meeting so holden.

Mr. ROWLAND submitted that it was not incumbent on him to do so. The Court would presume, in the absence of any evidence to the contrary, that the proceedings were authorized by the Apothecaries' Company. He had no legal evidence of the fact; but he had been in communication with Mr. Upton on the subject, and held in his hand his letter stating that the company would sanction the present proceedings.

The COURT overruled the objection, but took a note of it.

Mr. ASTLEY then made a very able and ingenious address to the jury, on behalf of the defendant, contending that the plaintiffs had entirely failed in proving that his client ever acted or practised as an apothecary; and no evidence whatever had been given that he had compounded medicine, or that what the little girl fetched from his house, even, was medicine. The fact was, his client was a very respectable man, and, as he was instructed, was practising at Ramsbury as a physician and chemist. The jury, in a case of this sort, must infer nothing, but require as strict evidence as they would do if the defendant were standing before them as a criminal, and if they had any doubt, give him the benefit of it. There was a total absence of all proof of his compounding the medicine; and he would ask them whether it was not more than probable that the defendant, like many other gentlemen, kept a large quantity of medicine by him, especially in such a season as this, and gave it to the poor. They would also bear in mind that no payment had been made, no bill delivered even, for the alleged attendance in this case; and though Mrs. Bayman had said that she once paid him money, was it not more than probable that that was a present from her, for the kindness of the defendant of which she had spoken? He again begged them, if they had any doubt, to give his client the benefit of it, and consider seriously before they returned a verdict for the plaintiffs.

The learned Judge told the jury that he could not better sum up this case than by using the words of Mr. Justice Cresswell, in the case which had been handed up (viz., the Apothecaries' Company *v.* Lotinga), where he said, "The sole question is, whether the defendant has practised as an apothecary; for it is not pretended that he had obtained any certificate authorizing him to do so. Now I apprehend that an apothecary is a person who professes to judge of internal disease by its symptoms, and applies himself to cure that disease by medicines; and if you think the defendant has, in the case proved before you, acted in that way, I recommend you to find your verdict for the plaintiffs."—In this case, according to the facts proved, you must find for the plaintiffs, unless you discredit the evidence, in which case you will find for the defendant.

The Jury having expressed a wish to retire, the bailiff was sworn, and they were locked up for about five minutes, when they returned into court with a verdict for the plaintiffs, for £20.—*Devizes and Wiltshire Gazette.*

Medical Intelligence.

HISTORY OF THE ORIGIN, PROGRESS, AND MORTALITY OF THE CHOLERA MORBUS.

[Concluded from p. 559.]

THE theory of a specific volatile poison, reproduced, like the small-pox virus, in the body of each cholera patient, has been, and still remains, the subject of vehement controversy. It is deeply interesting, because it involves the grave questions of contagion and quarantine, and because much weighty evidence and many eminent names are arrayed on both sides of this argument.

The advocates of this theory mainly rely on the facts, that cholera is observed to travel along roads, rivers, and all the great channels of human intercourse; that it has often broken out in camps immediately after the arrival of infected battalions; in armies, after a battle with infected adversaries; and in towns, after the arrival of infected individuals. They bring forward long series of affiliated cases, in which the seizure of each victim is traced backward to communication with a previous sufferer as its cause. They adduce a number of cases to show that the attendants on the sick suffer in a greater proportion than the rest of the population; and they produce examples of convents, foundling hospitals, and other institutions, which, though standing in the heart of cities ravaged by cholera, have yet, by a strict isolation, entirely escaped infection. To the objection, that thousands upon thousands of persons have held close intercourse with the sick without taking the distemper, they reply that in such cases the requisite predisposition was wanting.

Their oppenents, on the other hand, allege that towns lying in the track of the pestilence, and communicating freely with infected districts, frequently escape if airily situated and well drained; that whole countries (Hanover, for instance) have enjoyed almost entire immunity without employing quarantine—while others, such as Austria and Prussia, suffered in spite of military *cordons* and the most rigorously enforced isolation. They bring forward numerous instances of infected troops joining healthy encampments without communicating the disease; and equally numerous cases of pestilential outbreaks in healthy regiments on their encampment in low marshy districts, and without any arrival amongst them of infected persons. The alleged mortality amongst the attendants on the sick they declare to be exceptional; and they bring forward an overwhelming mass of evidence from all quarters of the globe, to show that the physicians and nurses in cholera hospitals do not suffer in a larger than the average proportion. The immunity enjoyed by certain convents, foundling hospitals, &c., they attribute, not to their isolation, but to the regular life and diet of the inmates, and to their superior sanitary condition. And they argue justly that to ascribe to a lack of predisposition the escape of the hundreds of thousands who have communicated with the sick without taking the disease, is a mere *petitio principii*.

So stands this momentous question. Scientifically considered, it appears hardly susceptible of a rigorous solution. Every case of seizure following on communication with an infected person may be met with a case, equally authentic, of seizure following on arrival in an infected place, or on respiration of contaminated air. On the other hand, every case of escape, notwithstanding exposure to effluvia emanating from the sick, may be counterpoised by equivalent instances of escape notwithstanding residence in a contaminated district, or immersion in a contaminated atmosphere. The rejoinder, founded on a presumed lack of predisposition in the individual exposed, is equally available on both sides of the question; nor can it ever be certainly known, with respect to either of the assigned causes of infection, whether it did or did not cooperate with some other; nor to which of several influences, all possible, perhaps all coexistent, the observed effect is due.

Practically, however, the question is conclusively settled in the non-contagionist sense. The experience of our own hospitals and hospital ships (especially of the Dreadnought and the Dover) has proved that the physicians and nurses of cholera patients are not more liable to the distemper than persons not so engaged. And the experience of Naples, Vienna, Moscow, and other continental towns, has proved, beyond dispute, the utter inefficacy of quarantine regulations to repel epidemic invasion.

The theory next in order to be noticed is that which seeks to connect cholera with the putrescent emanations of sewers, graveyards, &c., not merely as predisposing influences, but as actually containing the specific volatile cause of the disease. For such an hypothesis we can find no solid foundation. It cannot even be shown that the typhus infection itself depends, so directly as these theorists affirm, on putrescent animal effluvia; for typhus fever is unknown between the tropics, though putrescent exhalations are abundant in those latitudes. Moreover, anatomical students, who pass month after month in the dissection of decaying bodies, though weakened sometimes, are not observed to be fevered by the stench. And M. Thouret records that, when the putrescent accumulations of many years were removed in 1786, from the churchyard of St. Innocens

at Paris, no febrile disorder was produced among the workmen engaged in that loathsome operation. They suffered nausea, loss of appetite, debility, tremor—sometimes even asphyxia; but not one of them was attacked either with typhus or cholera. Putrefying animal emanations must therefore be held to predispose the body for typhus or cholera, only as they predispose it for for small-pox, for dysentery, for influenza, or for the plague. Of this we have conclusive evidence in the fact that, amongst the persons exposed to putrescent effluvia in the crowded quarters of Gibraltar, black vomit prevailed in 1828, cholera morbus in 1834, and typhus fever in several previous and subsequent years; while, again, the close districts of the towns in Malta were ravaged, in 1813, by the plague; in 1833, by influenza; and in 1837, by Asiatic cholera.

Such are the principal theories by which it has been sought to explain the genesis of Asiatic cholera. Each keeps in view one aspect of the question, but errs in neglecting the others. Each affords a hypothetical explanation for a certain number of the facts, but fails in its application to the remainder. Nor would either of them, even if established, afford the least clue to that inscrutable mystery—What is the agency or influence by which, in cholera, the vital force is subdued?—what is it, and how does it operate?

But though the cause of cholera eludes our limited means of investigation, sensuous and intellectual, its conditions of existence are ascertainable; and its fixed relations to age and sex, to class and diet, to certain bodily organs, and to certain remedial agents, have been, and at this moment continue to be, the subject of patient and exact observation. The latest researches exhibit the disorder as more fatal in infancy and old age than in the prime of life; as attacking both sexes in nearly equal proportion; as chiefly ravaging the poor and ill-fed classes; as rarely seizing the wealthy and robust, except when errors of diet or irritation of the intestinal membrane have placed them on a par for the time (so far as this disease is concerned) with organisms of an inferior resisting power. The poison, moreover, has a period of latency which rarely exceeds three days, and never a week; so that after this interval a person who has been exposed to contamination may consider his risk at an end. It can, however, co-exist with other diseases in the body; so that persons labouring under consumption, syphilis, typhus, small-pox, &c., do not, as it has been erroneously asserted, enjoy immunity from cholera. The disorder rarely attacks the same individual twice, though cases of re-seizure are recorded, and relapses during convalescence are even frequent. The mortality amongst the smitten varies with the period of the epidemic. At its first outbreak in Moscow, nine-tenths of the cases proved fatal; as the season advanced this frightful mortality gradually diminished, till towards its close the original proportion of deaths to recoveries was reversed. The organic seat of the disease appears to be the lining membrane of the intestines, which after death has been usually found more or less disorganised. But this local disorder is accompanied by a violent exhaustive impression on the nervous system, analogous to that produced by a large dose of arsenic or other deadly poison. For the cholera virus, once fairly absorbed in the system, no antidote is known; nor can the vital power be assisted in its desperate struggle with the poison by any treatment yet discovered. The most powerful narcotics, astringents, and stimulants; bleeding and injection of blood; heat and cold, even in the extreme forms of fire and ice, galvanism, acupuncturation, and the respiration of various gases; all the neutral salts, all the acids and alkalies, all the mineral and vegetable poisons—have been tried without success. Under twenty plans of treatment, pursued in twenty hospitals at Moscow, the average mortality was found to be the same; nor did those who obtained no medical aid at all die in a larger proportion than the rest.

The proved inefficacy, as well of palliative as of curative methods, drives us to preventive measures as our only resource. And here, it is satisfactory to observe, all scientific perplexity vanishes. Intricate and inscrutable as are all the philosophical questions connected with pestilential epidemics, the practical problem which they present is accurately and completely solved. It has been proved, beyond a doubt, that every form of pestilence is "preventible;" that typhus, like plague, may be driven from our shores; and that, as the wolf from our forests, so the cholera may be extirpated from our towns.

The fact is, that DEBILITY, whether resulting directly from privation, or caused by the reaction consequent on excess: whether depending on insufficiency, or on adulteration of food, water, or air; whether inflicted on the poor by exhausting toil, or on the rich by enervating indulgence; whether the consequence of physical suffering, or of mental anxiety and distress,—debility is, in such a climate as ours, the main condition of epidemic pestilence. A population well nourished and clothed, cleanly and airily lodged, fairly worked and paid, would, we may be sure, enjoy entire immunity from cholera. On the other hand, it is not to one only, but to a series of terrible and loathsome maladies, that we are exposed by the habitual infringement of physiological laws, and especially by

the respiration of vitiated air. Gorged with corpses, and sodden with ordure, the soil of London, like a field manured, furnishes to the great Mower, not one harvest only, but a perpetual rotation of crops. Year after year 15,227 victims beyond the proper average* fall in London by endemic diseases; independently of those who perish by the periodical outbreaks of epidemic pestilence. Those who escape cholera now must stand their chance of typhus next year; of scarlatina, perhaps, or febrile influenza the year after; and so on through the long catalogue of diseases.

So considered, the sanitary and the social questions appear but as correlative problems; or rather as two aspects of the same problem, viewed successively in its physiological and political bearings. On the early subjugation of "plague, pestilence, and famine"—rightly linked together in our litany—not only our individual, but also our social health, evidently depends. In this momentous enterprise, this campaign against the invisible destroyers of mankind, the energy of the English people is now fairly engaged. It is scarcely possible to overestimate the importance of the effects which this movement, under the admirable guidance of Dr. Farr, and his able coadjutors, must have upon the future health and happiness of mankind. Five centuries ago (in 1346), when a pestilence, so frightfully virulent that it is called to this day the "black plague," destroyed (according to Villani's computation) three-fifths of the inhabitants of Europe, a few miserable Jews were accused of poisoning the rivers, and their barbarous massacre was the only preventive measure inspired by this terrible mortality. To this day the Moslems believe the plague-smitten to be touched with an invisible lance by the Angel of Death; for whose propitiation they dress a she-camel in bells and feathers, and, after leading it in procession, give its flesh to the vultures and dogs. With less excuse, we ourselves have, on like occasions, been almost equally remiss. We have assembled in our churches, *over vaults filled with the festering dead*, to offer up prayers which, under such circumstances, almost amounted to blasphemy. And though we have not, like the Moslems, sacrificed victims to the Angel of Death, our shambles, reeking with unabated gore, have borne witness to an ignorant apathy, degrading as Oriental fatalism, senseless as barbarian rites.

Of these errors the present mortality is the terrible, but we trust the final, expiation. It rests with ourselves whether or not the next decennial period shall witness another plague calamitous as that which now "fills our streets with confusion and woe—the wailing of relatives, the hurried passing and repassing of the messengers of death, and the lamentable cry for surgeons, *wanted in many places at once.*"* It rests with ourselves whether, year after year, the dead shall be buried in the midst of the living. It rests with ourselves whether, year after year, the 17,550,000 cubic feet of black putrescence amidst which we live shall remain soaking into the soil of London. It rests with ourselves whether, year after year, the kennels of Whitechapel shall run, as of old, with the shambles steaming crimson. In a word, it rests with ourselves whether the ordures that now pollute our rivers shall henceforth fertilize our fields, and, ceasing at length to breed disease and death, shall spring up, strangely transmuted, in rich crops of the life-sustaining grain. The issues of these great events are now (under Providence) in our own hands. Between poison and food—between disease and health—between death and life—we are now called upon to choose. Shall we advocate the vested interests in filth and cholera, or give our strenuous support to the sanitary movement?

* Registrar-General's Quarterly Returns, No. II.

THE THEORY OF THE FUNGOUS ORIGIN AND PROPAGATION OF CHOLERA. BY DR. T. K. MITCHELL, OF PHILADELPHIA.

[The following remarks by Dr. Mitchell, on the propagation of cholera, are of some interest in relation to the discoveries lately made by Mr. Brittan and Mr. Swayne:—]

Perhaps no disease has so much puzzled the etiologist as cholera. Its singular local origin, its yet more singular progress, its apparent inconsistencies, its diffusion from a tropical point over the habitable globe, and especially its invasion, in winter, of the frozen steppes of Tartary and Russia, all tend to confuse the observer of epidemics. At one time, slowly, against the monsoon, it advances on a long geographical line, at the rate of from one to two miles a day, whilst at another, it flies on the wings of commerce, almost as fast as there are means of conveyance for men and merchandize. At one time, it ascends or descends along the valley of an innavigable stream, slowly and regularly, as if progressive by its own locomotion; at another, it flies with the ship or the locomotive, across seas and continents. A stranded vessel throws it upon the shore of a lonely sea-island (Dickson). One ship conveys it from Dublin to the St. Lawrence, another meets it *in the midst of the Atlantic*, and carries it to New York, while a third, from the same source, deposits it at New Orleans. Steamers scatter it far and wide as they ascend from New Orleans to the various branches of the river

* Report of the Registrar-General, Sept. 1, 1849.

above. Contagion might explain its progress, where there are always materials to form a line of march, but contagion cannot account for its solitary advance over untravelled wastes or untenanted seas. Contagion cannot explain its presence in the atmosphere of the mid-ocean, nor its manner of assailing a city at once, at its most opposite points. Contagion is at fault as explanatory of the *exemption of classes*, the almost exclusive invasion of low, damp, dirty habitations, and the uniform appearance of a general premonitory state, before the irruption of the cholera itself.

The attacks of cholera within a few hours after exposure to infection, the introduction into hospitals of large numbers of cholera patients, whilst the old inmates enjoyed complete immunity, as at the Odinka, at St. Petersburgh, the diseased condition of a single vessel, the Dreadnought, in the Thames, in 1837, the great exemption of physicians and nurses, the attack of the old rather than of the young, or of those at puberty, all militate against the notion of a propagation by contagion.

On the other hand, many cases are cited where the cholera came with bodies of men, caravans, and ships, and seemed to be propagated by personal communication. At one time it confined itself to one wing of an army; at another, it spread progressively from left to right, along the line of encampment. Sometimes it affected but one out of thirty men in each of a great number of large tents, and sometimes it restricted itself to one or two such tents, which it completely desolated. No wonder that men were puzzled and perplexed, being contagionists at one time and place, and anti-contagionists at another. No wonder that Mojon and Holland should have endeavoured to avoid the difficulty by reverting to the exploded doctrine of Kircher and Linnæus, the animalcular theory of the disease.

The animalcular, being an organic theory, would explain well enough the phenomena of progress were it not for the apparent absurdity of supposing that animalcula of tropical origin could exist and procreate in a Russian winter. The want of proof that animalcula are poisonous, or that they fulfil the conditions for such a theory, has been already stated.

But if we assume for cholera a fungous origin, all difficulties vanish; and, as in the case of yellow fever, an easy explanation may be given of every apparent incongruity. We have only to suppose, what is known to happen in other cases, that the fungi, on which cholera is assumed to depend, acquire at times, as do the germs of some contagious diseases, an unusual power of reproduction and diffusion, a greater potency of expansion. Such germs may be carried by men, and goods, and ships, or may make a slower progress by their own unaided activity, or be scattered by the winds to regerminate wherever special conditions are to be found. Thus can we see why the poison prefers the route of streams, or infests the damp parts of cities; and why classes living in clean apartments in dry districts suffer so little.

We can see why women escape better than men; why both cholera and yellow fever, by the natural tendency of the vegetable cause to the organs of generation, almost always cause miscarriage of pregnant women; and why, when a city or country is unhealthy, the fungiferous causes of death, by over-stimulating the organs of reproduction, usually make a compensation by the births for the unusual mortality.

Can we not thus explain the appearance of contagion, where there is no contagion, and the absence of contagion while there is an obvious conveyance of the epidemic poison from place to place?

We are no longer suprised to learn that cholera advanced regularly from the tent nearest to the water, to the others successively, until it reached the end of the lines; nor do we feel astonished that it was, in another case, confined to the tent nearest the tank, or to the flank company, or the brigade on the left or right of the army. We now see why ninety men detached from a large corps, and attacked on the first night of absence, on the borders of a lake, were, without damage to the corps, promiscuously mingled again with it, after being brought back, totally disabled, to the original encampment. We can understand now, how, in the Odinka Hospital, whose salubrity was previously proved by the absence of cholera during an epidemic at St. Petersburgh, its eight hundred inmates continued in their usual health, despite the introduction from without of five hundred cases of cholera. We can see how a corps, in its march through an irregularly infected country, may acquire and lose the cholera several times; how a healthy corps may enter a sickly army, *en route*, and not suffer from the prevailing malady. The diffusion, the limitation, the leaving the infection behind, or the carrying it forward, all admit of an easy explanation if we assume the hypothesis that germs or spores, created exteriorly to the body, are the *semina morbi*, and that they are liable to the usual accidents by which seeds are conveyed, or lost, or favoured, or repressed.

MEDICAL APPOINTMENT.

Mr. Robert Bentley, F.L.S., &c., has been appointed Professor of Botany to the Pharmaceutical Society of Great Britain, in the room of the late Dr. A. Todd Thomson, deceased.

SURGEON-DENTIST TO H.R.H. PRINCE ALBERT.

His Royal Highness Prince Albert has been pleased to appoint Edwin Saunders, Esq., to be Surgeon-Dentist in Ordinary, in the room of Mr. Nasmyth, deceased.

QUEEN'S COLLEGE, BIRMINGHAM.

The senior and junior branches of the medical department have in every respect fully supported their character during the past year. Within the period comprised between the 1st of October, 1848, and the present date, eighty students have been registered.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 27th Sept. 1849:—John Warren Edger, Kirkby Stephen—Edmund Carver, Melbourn, Cambridgeshire—George William New—Edward Emra Earle, Bristol—Thomas John Sayer, Kenninghall—George Gibson, Birtley, near Gateshead.

OBITUARY.

On the 29th ult., while bathing, at Eastbourne, Sussex, Allen Williams, M.D., aged 32, only surviving son of Allen Williams, Esq., of St. Thomas's Street, Southwark.

At Madras, on the 26th of July, Dr. J. Appleton, late of Greenwich, of dysentery.

On the 1st inst., at North-end-cottage, North-end, James Edwards, Esq., M.D., aged 69, late of Canterbury, and formerly of Putney.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

Aspects of Nature in Different Lands and Different Climates, with Scientific Elucidations. By Alexander von Humboldt. Translated by Mrs. Sabine. 2 vols.

Monthly Journal of the Medical Sciences. October 1849.

On Sulphur as a Remedy for Epidemic Cholera. By John Grove, M.R.C.S. &c.

The Chemist. Edited by Charles and John Watt. No. 1, New Series. October, 1849.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 34 and 35; August 25 and September 1.

The Veterinary Record. October 1849.

The London Journal of Medicine. No. 10, October 1849.

The Pharmaceutical Journal. October 1849.

Journal of Public Health. October 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·68
" " " Thermometer[a] ..... 58·4
Self-registering do.[b] .... Max. 85·7 Min. 36·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·69—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was about half a degree above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Sept. 29.

Births.		Deaths.		*Av. of 5 Sum.*	
Males....	787	Males....	825	Males....	513
Females..	739	Females..	786	Females..	495
	1526		1611		1080

Causes of Death.		*Av. of 5 Sum.*
All Causes	1611	1008
Specified Causes	1607	1005
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	782	302
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	46	36
3. Brain, Spinal Marrow, Nerves, and Senses	114	115
4. Heart and Bloodvessels	48	38
5. Lungs and organs of Respiration	128	81
6. Stomach, Liver, &c.	58	68
7. Diseases of the Kidneys, &c.	7	8
8. Childbirth, Diseases of Uterus, &c.	11	11
9. Rheumatism, Diseases of Bones, Joints, &c.	9	6
10. Skin	0	1
11. Old Age	57	32
12. Sudden Deaths	39	8
13. Violence, Privation, Cold, &c.	76	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsions	40
Measles	13	Bronchitis	44
Scarlatina	30	Pneumonia	68
Hooping-cough	20	Phthisis	99
Diarrhœa	163	Lungs	6
Cholera	434	Teething	8
Typhus	72	Stomach	2
Dropsy	16	Liver	12
Hydrocephalus	29	Childbirth	4
Apoplexy	28	Uterus	6
Paralysis	19		

Remarks.—The total number of deaths was 603 above the weekly summer average.

NOTICES TO CORRESPONDENTS.

Dr. S. Haden.—We think the plan of Cholera Case-taking very good, and would advise its publication for the use of those practitioners who treat cases on a regular system, and with a desire to improve medical science. Does Dr. Haden wish that it should appear in our pages?

Messrs. W. and S.—We have read the statutes, 3rd Henry VIII. c. 2, the 34th and 35th Henry VIII. c. 8, as well as the 18th George II. c. 15. We believe that the legal opinion has been given under an entire misapprehension of the status of the present College of Surgeons, and that our correspondents can legally recover the amount of their bill by an action of debt. The reasons for this view will be fully and prominently stated in the following number.

Mr. W. Smith.—The communication on the treatment of Insanity will have early insertion. We shall be happy to receive the series of papers for publication.

Mr. Charles Beckett's paper on the Treatment of Cholera will appear next week. We shall gladly publish the further results of treatment observed by Mr. Beckett.

Dr. Reid's letter on the extinction of Cholera, in our next number.

Communications have been received from Dr. Routh—Dr. T. Williams—Dr. Joseph Bullar——Mr. D. W. Crompton—Mr. Hitchman—and Mr. Mann. These will have early insertion.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXVIII.

AMPUTATIONS.—Continued.

AMPUTATIONS OF THE UPPER EXTREMITY—*Amputation of the phalanges at their articulations—Amputation of the third from the second phalanx—mode of making the incisions—double or single flap operation—Amputation of the phalanx at the metacarpal articulation—position of the hand—direction of incisions—objections to the operation—modification according to the finger to be removed—Removal of all the fingers at their articulations* (Vide Fig. 1)—*Amputation of the thumb should seldom be had recourse to—Amputation of little finger—different processes—Disarticulation of all the fingers from the carpus, leaving the thumb* (Vide Fig. 2)—*Amputation of the hand at the wrist* (Vide Figs. 3 and 4)—*different methods—Amputation of forearm—circular and flap methods* (Vide Figs. 5 and 6)—*Amputation at elbow-joint—inexpediency of—Amputation in the continuity of humerus—different methods—circular method—flap method* (Vide Figs. 7 and 8)—*Amputation at shoulder-joint* (Vide Fig. 9)—*different methods—precautions to be observed—accidental admission of air into a vein in performing this operation—cases.*

Amputations of the upper extremity.—Severe injury to the hand often renders necessary the amputation of the fingers, with portions, or the whole, of the corresponding metacarpal bones. To perform these operations dexterously, the surgeon must be well acquainted with the anatomy of the hand, particularly with the exact relative position of the different parts; he will otherwise find considerable difficulty in accomplishing the amputation of any portion of the hand, or other part he may be desirous of removing.

Amputation of the phalanges at their articulations.—These articulations are covered by the extensor tendons on their dorsal, by the flexor tendons on their palmar aspect, and by the lateral ligaments on either side; all these, as well as the outer skin, must be cut through before the injured or diseased phalanx can be removed: this removal of the part may be effected by the circular or flap mode of operating.

Removal of the third or extreme phalanx from the second.—The finger to be operated on being extended in the prone position, while all the others are flexed and separated from it, a circular incision is to be made a quarter of an inch beyond the articulation, through all the soft parts, directly down to the bone; a longitudinal cut is then made on either side, commencing from the first incision, and passing upwards to the joint: by this procedure a dorsal and a palmar flap may be dissected back; the joint is then to be cut through, and the amputation completed: it will be found that the flaps completely cover the anterior surface of the second phalanx, and they are to be retained in their proper position by plasters.

The third phalanx may also be removed from the second in the following manner:—the extreme or third phalanx being semiflexed, the surgeon introduces his knife immediately above the projecting head of the bone to be removed, and thus lays open the joint, when, by directing the edge of the knife along the palmar surface of the phalanx, he may cut his way out, so as to form a single flap from the palmar aspect of the finger. This is a much quicker operation than the former, and less painful; I therefore usually employ it. Care must be taken not to leave the flexor tendon too long in this operation: and should it not contract sufficiently, it may be cut off, as it gives no additional pain.

This operation is sometimes modified by first making a semilunar dorsal flap before the joint is opened, when a smaller palmar flap is required, and is then formed in the same manner as in the last operation.

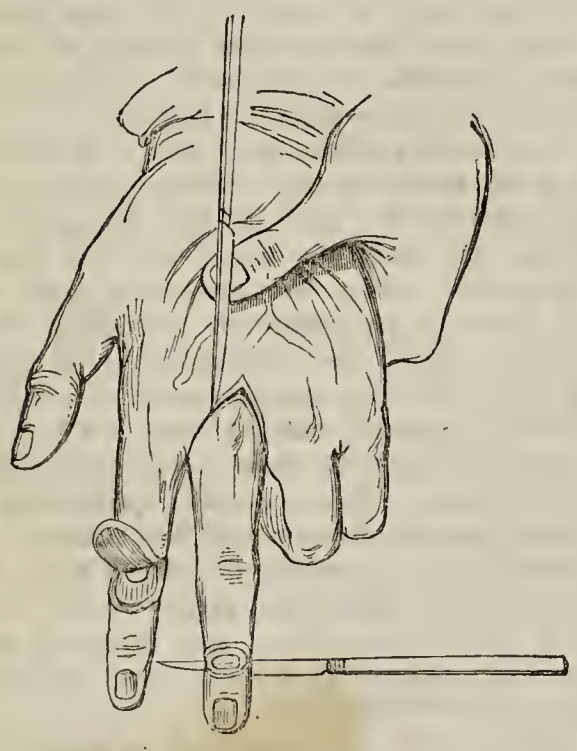
In all these operations the flaps may be at once adjusted, as the arteries do not require any ligature, pressure being sufficient to check the bleeding.

The amputation of the second or middle from the first phalanx should never be had recourse to; for as the proximal bone of the fingers has no flexor tendon inserted into it, it, after the removal of the other phalanges, remains permanently extended, and becomes a source of extreme inconvenience: it is better, therefore, to remove the whole of the finger from the metacarpus than to leave this portion of it, which will most assuredly lead to the necessity for a second operation.

I have many times performed these operations: generally speaking they are easily accomplished, but still I have frequently been disappointed at the result, in consequence of the tardiness with which the hand is restored to its functions, and the difficulty

which sometimes occurs in the healing of the wound. Local inflammation is often induced, leading to the formation of abscesses, or exciting irritation in the fibrous tissues along the fore-arm, producing a permanent adhesion of the flexor tendons to their sheaths, so as sometimes to interfere with the action of the muscles. The thickness of the cuticle on the palmar flap will also sometimes prevent the healing of the stump. Great caution, therefore, should always be observed after these minor operations, and the patient be kept in as perfect a state of quietude as after those of a more important character.

Fig. 1.



Amputation of the first phalanx at its metacarpal articulation.—The finger to be amputated being firmly extended by the operator, while the rest of the fingers are flexed into the palm of the hand, which latter is to be held by an assistant, the surgeon places the heel of a long narrow scalpel on the dorsal surface of the head of the metacarpal bone, and drawing the knife in a semicircular direction from the heel to the point, along the side of the phalanx, he forms the lateral flap, taking care not to complete it until the incision terminates on the palmar aspect, exactly opposite the point at which he commenced his operation: a similar lateral incision is then to be made on the opposite side of the finger, and the two flaps being reflected the structures of the joint are to be divided, and the finger detached.

Some surgeons recommend that the second flap should be made by cutting into the joint directly the first is completed, traversing the joint with the knife, and forming the second flap by cutting from within outwards: I have frequently performed both operations, but infinitely prefer the former.

An objection is sometimes made to the amputation at the metacarpo-phalangeal articulation, in consequence of the great width of the head of the metacarpal bone causing a large hiatus between the other fingers when the ring or middle fingers have been removed; and also, that from the remaining fingers losing their support, the strength of the hand is much diminished. It is proposed, therefore, that another mode of proceeding should be substituted for that of disarticulation, the only difference being, that the incisions are to be commenced posterior to the joint, and the flaps may be formed in the manner just described. If preferred, this operation may be performed by transfixing the hand with the knife on either side of the metacarpal bone to be sawn through, posterior to the joint, and then cutting a way out, terminating at the cleft between the fingers; the flaps thus formed are then to be held aside, and the metacarpal bone being well exposed behind its articular head, may be sawn through obliquely, with a metacarpal saw, and the deformity arising from the projection of the head of the metacarpal bone is thus obviated, and the remaining fingers may be approximated. The removal of the head of the metacarpal bone is a proceeding I should never adopt for a labouring person, as the width of the palm of the hand is a matter of great importance in their occupations; but to those to whom the unsightliness is a more important object than the diminished use of the hand, it is a reasonable operation.

When this amputation is performed for the removal of the fore or little finger, the radial flap in the first instance, and the ulnar flap in the latter, should be made the larger, so as completely to cover the extremity of the metacarpal bone.

When it is necessary to remove all the fingers from their metacarpal articulations, leaving only the thumb, the following mode of operation should be adopted:—The affected hand being proned and held firmly by an assistant, who at the same time draws the skin of the metacarpal region forcibly upwards, the surgeon grasps the fingers in his left hand, and commences an incision on the cubital side (if operating on the right hand) of the metacarpo-phalangeal articulation of the little finger, just opposite to the fleshy sulcus which marks the centre of motion of that joint: this incision is to be carried firmly across the dorsum of the hand, half an inch anterior to the articulations, dividing the skin and extensor tendons in its course, until it reaches the radial side of the metacarpal joint of the fore finger: this flap should be convex towards the

fingers, and should be turned back to expose the joints, which are then successively to be laid open, and the heads of the phalanges disarticulated from the metacarpal bones. The knife is to be passed under the heads of the phalanges, and, keeping it close to their palmar surfaces, a flap is easily formed, which is to extend as far as the line which marks the division between the fingers and the palm of the hand.

This may be varied by commencing your operation on the palmar surface of the hand, dividing, by a single semicircular incision, all the soft parts down to the heads of the metacarpal bones; the hand is then to be proned, and a second incision, commencing at the termination of the first, is to be made across the dorsal surface to the point from whence the first incision was commenced, dividing at the same time the skin and extensor tendons: the heads of the phalanges are then to be luxated, and all the structures connecting them being divided, the operation is completed. In making the dorsal incision, it should be half an inch in front of the heads of the metacarpal bones, in order to secure a sufficient dorsal flap to cover those bones.

These operations are equally applicable when two or three of the fingers only are to be removed: (for these operations vide fig. 1.)

Amputation of the thumb from the carpus.—The right hand being supinated, or if the left, proned, and the thumb abducted from the rest of the fingers, the surgeon commences his incision in the mid space between the thumb and index finger, directing the edge of his knife boldly backwards and outwards, until it comes in contact with the metacarpal bone of the thumb, along which he is to pass the knife (continuing to abduct the thumb as he cuts) until the edge is checked in its course by the os trapezium; the edge of the knife is then to be directed outwards, the joint opened, the head of the bone luxated, and a flap formed by separating the muscles from the outer aspect of the metacarpal bone, as far as its attachment with the phalanx. But as the outer flap thus made is usually very scanty, in consequence of the breadth of the head of the metacarpal bone of the thumb rendering it difficult to include a sufficient quantity of soft parts in cutting out, I prefer the following plan of operating:—

The hand of the patient being firmly held in the position between pronation and supination, an incision is made commencing from the projecting tubercle of the os trapezium, which may be readily felt on the radial side of the palmar aspect of the carpus, just at the root of the thumb, and which is always sufficiently conspicuous to mark its position; this incision is to be continued along the ulnar side of the thumb as far as the metacarpo-phalangeal articulation; a second incision is to be made on the dorsal surface of the thumb, commencing just at the junction of the metacarpal bone of the index finger with the trapezium, and being continued to join the termination of the first incision at the outer side of the metacarpo-phalangeal joint: this flap being reflected and held back, the thumb is to be abducted, and the inner flap formed by cutting downwards in the space between the index finger and thumb in the manner described for the first incision in the last operation: the joint is then completely exposed, and its ligaments being cut through, the thumb is separated from the hand.

The amputation of the thumb, however, should never be had recourse to unless the disease or injury which it has sustained renders such a step imperative; for the grand function of the hand, as a prehensile organ, is so greatly diminished by the loss of the thumb, as to render it comparatively useless, and nothing short of danger to life can ever sanction the operation.

Amputation of the little finger.—A very similar operation to that last described may be performed for the removal of this finger, but at the same time it is to be remembered that the plan adopted must be modified by the nature of the disease or accident which renders an operation necessary, as the aspects from which the flaps are made must depend on the implications of the skin with the affection: this may indeed be said of all amputations. The hand being supined, an incision is to be commenced in the cleft between the little and ring finger, and continued down to the carpus. It will require some little force, and at the same time abduction of the little finger, to insinuate the edge of the knife between the carpal extremity of the index and little fingers: having reached the unciform bone, the point of the knife is to be directed above, and the edge being turned upwards, the joint is opened, and the second flap may be formed by traversing the articulation, and bringing the knife forward in close apposition with the ulnar side of the metacarpal bone, as far as its phalangeal extremity.

The operation may also be performed by making the inner flap first; but if this be adopted, the joint should not be laid open from within to without, as the knife would be almost certain to pass into the articulation of the cuneiform with the unciform bone, and probably detach the former bone, or at any rate risk the laying open of the wrist joint. I believe it is, however, a better

plan in these amputations to saw off the carpal ends of the metacarpus, than to disarticulate them; certainly for the fore, middle, and little fingers, as the extensor tendons of the wrist joint, and flexor carpi radialis, are thus preserved; and even in the amputation of the ring finger much support is given to the metacarpal bones of the middle and little fingers by the reservation of its carpal extremity, which should therefore always be preserved if the affection requiring operation will admit of it.

In gun-shot wounds, or other serious crushing accidents, it may become necessary to amputate all the fingers at their carpo-metacarpal joints, with the exception of the thumb, or should that be implicated in the injury, I believe the amputation of the hand at the wrist joint is the better mode of proceeding to remove the injured parts.

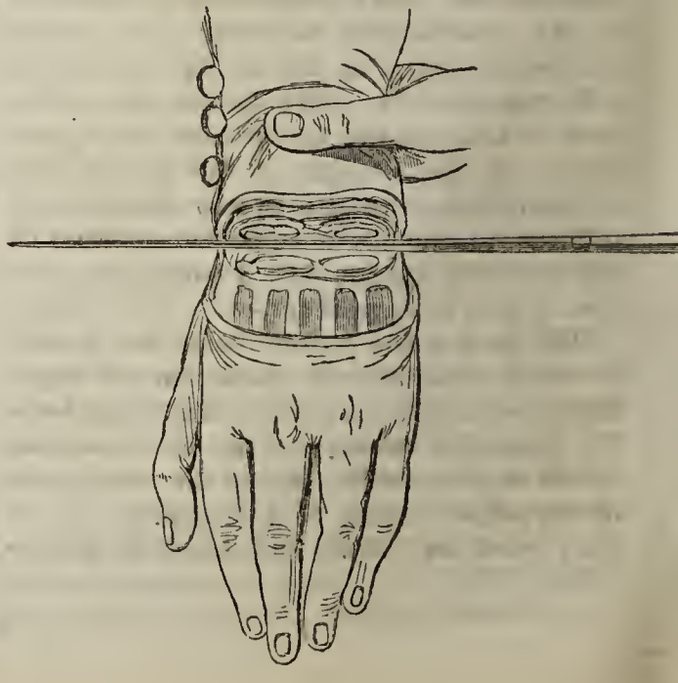
Amputation of the four metacarpal bones at their articulation with the carpus, preserving the thumb.—To perform this operation the following steps should be adopted: if it be the right hand, it should be firmly held in the position of supination, and an incision, commenced about half an inch above the articulation of the metacarpal bone of the fore finger with the carpus, and carried boldly across the palm of the hand to the ulnar side of the little finger, cutting through all the structures which cover the metacarpal bones: this flap should be so formed as to present a slight convexity towards the fingers, and it is now to be reflected sufficiently to expose the carpo-metacarpal joints: a similar incision is to be made on the dorsal surface of the hand, and the flap reflected to expose the joints, which being successively laid open, the hand may be removed, with the exception of the thumb. Should, however, the proximal extremities of the metacarpal bones prove sound, the articulation may be left entire, and the bones sawn through, by which means the extensor and flexor tendons of the wrist joint may be preserved. Should the opportunity offer of saving one other finger as well as the thumb, the surgeon should always avail himself of it, as the prehensile power of a finger and thumb may always be adapted to most useful purposes, far surpassing any benefit which can be derived from the most complicated apparatus. Extreme ingenuity may be often required to adapt the mode of operating to the peculiar exigencies of the case, and a thorough knowledge of the anatomy of the hand alone can enable a surgeon to prosecute his intentions; but with this knowledge a hand which by a less skilful operator might be condemned to amputation, may be rendered a most useful organ, and probably permit the sufferer to follow his usual avocations.

Fig. 2.

Amputation of the hand at the wrist.—The hand being firmly held in the prone position, and the skin forcibly drawn up by an assistant, the surgeon commences his incision a little on the palmar side of the styloid process of the ulna of the right hand, and continues it through the skin in a semilunar form, terminating it on the palmar side of the styloid process of the radius, the convexity of this incision being towards the fingers, and crossing the centre of the digital row of the carpus: this cutaneous flap is to be reflected.

The hand being supinated, a similar incision is then to be made on the palmar side, in doing which great care is required to prevent a button-hole opening being made in the skin, where the integument is so closely attached to the pisiform bone; the palmar flap being reflected, the extensor and flexor tendons are to be cut through close to the radius and ulna, and the knife carried through the joint, dividing all its remaining ligamentous attachments.

Fig. 3.



Some surgeons recommend a modification of this operation, laying open the joint immediately after the dorsal flap is formed, and then traversing the joint from the anterior flap by flexing the joint, and cutting out in the palm of the hand: I prefer the first operation, as by the second the tendons are left much longer, and less manageable, than in the other mode of proceeding (vide fig. 3).

The circular operation has also been adopted by some surgeons in the following manner: the hand being firmly held between pronation and supination, and the skin forcibly retracted, a circular incision is made through the skin an inch below the styloid processes of the radius and ulna, and being reflected the operator presses down the patient's hand, and then traverses the joint from the radial to its ulnar aspect, dividing all the tendons and ligaments which connect the hand with the fore arm.

Fig. 4.

The radial, ulnar, and interosseous arteries all require to be secured, and the edges of the wound are to be brought together by a single suture and plasters. In amputating at the wrist-joint, care should be taken not to remove or injure the interarticular fibro-cartilage placed between the ulna and cuneiform bone, for as this cartilage attaches the radius to the ulnar, the strength of these bones is much diminished by its removal, and the motions of the radius upon the ulnar permanently destroyed: it may always be avoided by directing the edge of the knife towards the carpus, rather than towards the bones of the fore arm.

I have three times amputated at the wrist joint, and in each case adopted the first mode here recommended. In one of these cases, after a gun-shot wound, in consequence of the laceration of the skin my flaps were rather scanty, and I therefore sawed off the styloid processes of the radius and ulna: in the other cases the stumps healed equally rapidly, and in neither of them did I remove the articular cartilages from the radius and ulna, as is sometimes recommended, but which I consider to be perfectly unnecessary, as they do not appear to impede the union of the stump.

When either injury or disease has implicated the wrist joint itself, as well as the structures of the hand, if amputation be required it must be performed through the fore arm, which may be effected either by the flap or circular mode of operating. I acknowledge I am myself a great advocate for the circular operation, both in amputating the fore arm and the leg, and have found in my own practice that the wound heals much more readily than when the flap operations have been had recourse to; and this depends, I believe, upon the more perfectly symmetrical division of the muscles, and avoiding the exposure of lengthened strips of nerves, which are so frequently left in the flap operations, especially in the fore arm.

The best point for the amputation of the fore arm is about its centre, for below that the tendons are so numerous as to afford but a poor covering to the ends of the bones, and they are also but little competent to undergo adhesive reparation.

Circular amputation of the fore arm.— The brachial artery being compressed by an assistant, or by means of a tourniquet, the arm is to be extended and held by two assistants in a position between pronation and supination, one of the assistants at the same time making extension from the wrist for the purpose of putting all the muscles equally upon the stretch, while the other retracts the integuments towards the elbow joint. The surgeon is then to make a circular incision around the centre part of the fore arm, through the skin and superficial fascia, and these are to be reflected upwards by dissection for at least an inch, so as to leave an ample covering to the ends of the bones; a second circular incision is then made through all the muscles to the bone, the incision commencing as close as possible to the everted skin, the edge of the knife should be directed slightly upwards for the still further object of securing plenty of covering; the amputating knife, if narrow enough, or a catlin if it be not, is then to be introduced between the bones, and all the interosseal tissues divided as high up as the first incisions will permit. The arm is then to be proned, and the saw applied first to the radius and subsequently to the ulna:

during the application of the saw the bones should be forcibly grasped together by the assistant, which much facilitates the use of the saw.

Fig. 5.

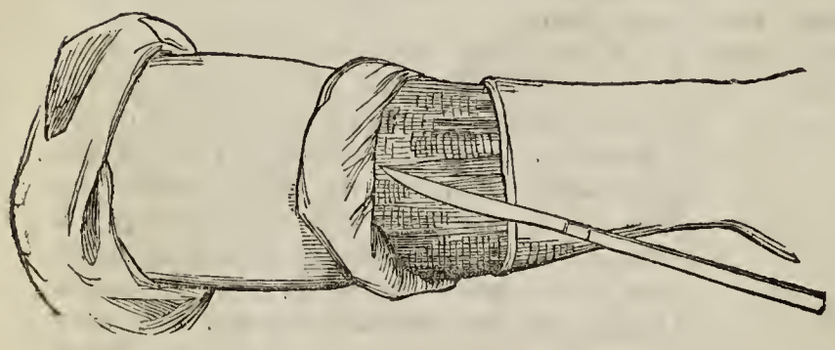


Fig. 6.

The radial, ulnar, and interosseous arteries are then to be secured, and they will all be found on the palmar aspect of the stump, anterior to the bones and interosseous ligament. The edges of the wound are then to be brought together by slender strips of adhesive plaister, and the stump covered with lint dipped in cold water.

Amputation of the fore arm with two flaps.—The arm is to be held in precisely the same position as that described in the last operation, and the surgeon standing on the outside of the right arm, or on the inside of the left, takes up between the fingers and thumb of the left hand the soft parts occupying the space between the radius and ulna in front, and a few lines below the point where he intends to saw through the bone he thrusts the point of his double edged knife perpendicularly through the fleshy mass close to the bones passing up from the radial to the ulnar side, and cuts downwards to a sufficient extent to form a good flap, which he completes by cutting outwards through the skin.

The knife is again introduced in the upper angle of the same wound, and carried behind the radius and ulna, and thrust out at its lower angle: this may be easily effected by supining the arm a little as the knife is passbehind the radius; and if this precaution be not taken, there is a probability of the knife passing between the two bones of the arm, which I have seen happen, to the great embarrassment of the operator. The interosseous tissues are to be divided, as before described, and the arteries secured: I have always found this more difficult in the flap than in the circular operation, in consequence of the liability of the doubled-edged knife to wound the vessels above the point of their division. After the circular amputation of the fore-arm, I have several times been surprised at the rapidity of the healing of the wound, and have certainly found the flap operations comparatively tardy in their union; so that, as I have before observed, I generally adopt the circular mode.

Amputation of the fore-arm at the elbow joint.—I have never myself performed this operation, nor can I comprehend any reason for its being chosen. M. Dupuytren, I believe, frequently adopted it; but I should have thought that the broad articular surfaces of the humerus, and its non-articular projections, would have offered considerable hindrance to the union of the stump, and afforded but a very inconvenient surface for the future adaptation of any mechanical apparatus. In performing this operation, M. Dupuytren proceeded in the following manner:—The fore-arm being supined and slightly flexed, the operator, standing on the inside of the patient, grasps between his thumb and fingers the fleshy mass situated in front of the condyles of the humerus, and raising it from the joint passes a double-edged knife immediately across the bend of the elbow, and carries it downwards along the fore-arm for three or four inches, taking care not to entangle the edge of the knife with the coronoid process of the ulnar. This flap being held back, he makes a half-

circular incision on the posterior aspect of the arm, cutting through all the soft parts, and thus connecting the angles of the base of the anterior flap : the capsular and lateral ligaments of the joint are next laid open, and the insertion of the triceps muscle being detached from the olecranon process of the ulna, the fore-arm is removed. Some surgeons recommend the sawing of the olecranon, and leaving it as a point d'appui for the triceps muscle, but it can afford so very slight a resistance to the contractions of that muscle that it seems useless to save it.

A modification of this operation has been proposed by some French surgeons, which excluded the necessity of amputating through the articulation, in sawing through the humerus immediately above the condyles instead. For this object the anterior flap is made by introducing the knife an inch and a half above the condyles, and then slightly flexing the fore-arm the knife is carried down to the extent of about two inches, and the integuments divided by cutting out. The upper angles of this wound are to be united by a posterior half-circular incision, which is to cut through all the soft parts directly down to the bone and above the olecranon process : the knife is to be carried around the bone completely to denude it, and the saw applied immediately above the condyles. The artery is then to be secured, and the edges of the wound adapted. A most excellent stump is formed by this method. I have never performed this operation on the living body, but frequently on the dead, and have no doubt of its facility of execution ; still, as I can see no advantage to be gained by the length of the humerus saved, and being impressed with the conviction that a higher degree of constitutional irritation follows the amputations through large joints than in the continuity of a bone, I have always preferred the amputation through the centre of the humerus, which appears to me to be a much more simple operation.

Amputation in the continuity of the humerus.—I have almost invariably adopted the following method in this amputation :—The patient being placed on a chair, and the subclavian artery compressed by one assistant, while the arm is extended by another, I stand on the outer side of the arm, and grasping the soft parts on the inner side, introduce the point of the knife a little below the junction of the middle with the lower third of the humerus, and pass it perpendicularly from above downwards through the thickness of the arm, and continuing the incision downwards, and towards the surface, cut through the skin, and from the inner flap. I then introduce the knife at the upper angle of my first incision, and pass it through on the outer side of the humerus, directing the handle of the knife outwards, as soon as its point has passed beyond the bone, so that I may bring it through at the same point where the first transfixing incision terminated, I then complete the outer flap by cutting downwards and outwards. In making these two flaps I do not pass the knife close to the bone, but avoid cutting through the artery and trunks of the nerves : the two flaps are then forcibly held back, and the deeper-seated muscles with the vessels and nerves are now divided down to the bone by the circular incision, the bone then sawn through, and the vessels secured. This operation combines both the flap and circular modes of amputating, and avoids at the same time the painful process of dissecting back the skin, as required in the common circular mode, and the lengthened strips of nerves which are left in the usual flap operation.

The circular operation is performed by separating the arm from the side, and the artery being compressed either by an assistant above the clavicle, or by a tourniquet, and the skin being drawn upwards, the surgeon, standing on the outer side of the right, and inner side of the left arm, makes a circular incision by one continuous sweep of the knife through the skin and fascia of the arm. Some few strokes of the knife will then be required to reflect the integuments sufficiently to give a good covering to the stump. The integuments being reflected, all the muscles are to be divided by one circular motion of the knife down to the bone, commencing the incision through the biceps close to the edge of the everted skin. If it be found that the superficial muscles have retracted beyond the deep-seated ones, and that they are still attached to the bone, they should be divided by a second incision made as high up as the point to which the superficial ones have retracted : the bone is thus perfectly exposed for the use of the saw, which should be applied as close to the muscles as possible. In very fleshy limbs a linen retractor will be found useful to protect the muscles from the saw. (Vide Figs. 7 and 8, circular and flap operations, next page.)

Amputation of the humerus through its upper third.—This operation must always be performed by means of flaps, and is prosecuted in a very similar manner to the amputation at the shoulder-joint ; which operation, indeed, has been too frequently performed when not actually required, and when the method I am now about to describe should have been substituted for it.

Fig. 7.

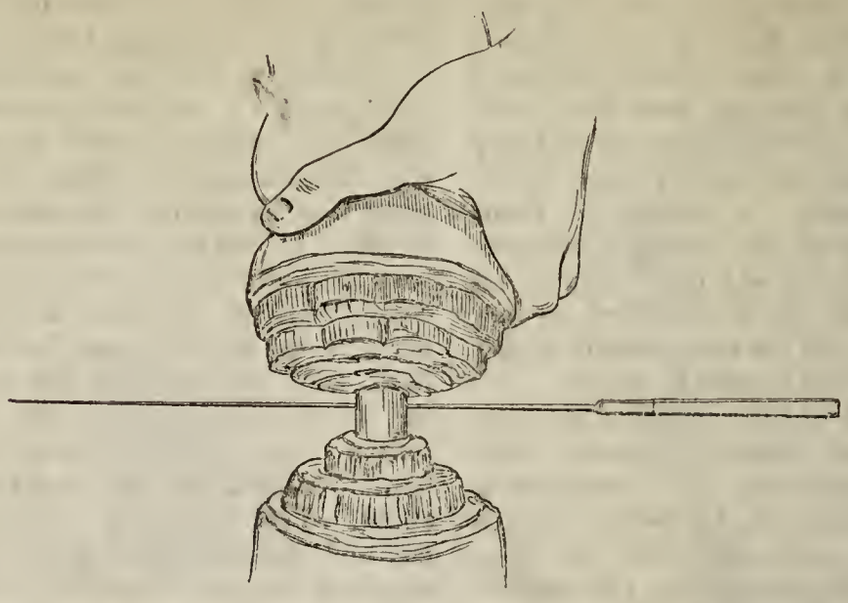
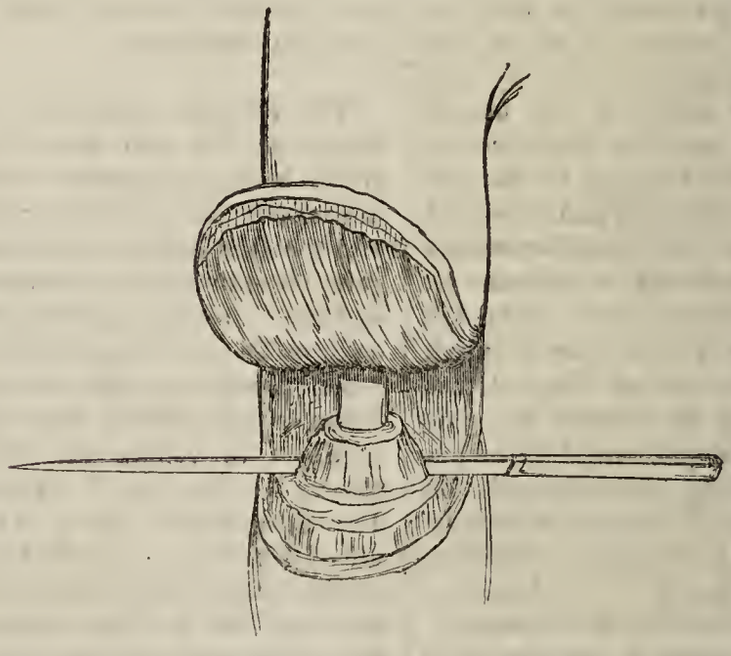


Fig. 8.



The patient being seated in a chair, and the subclavian artery compressed above the clavicle or the axillary artery, by means of a tourniquet the straps of which have been carried over the acromion, an assistant abducts the patient's arm, and the surgeon standing on its outer side, raises the deltoid from the humerus, and transfixes it in about its centre with a double-edged knife, which passes close to the bone, and being drawn downwards is made to cut its way out just at the insertion of the muscle. This flap being reflected, the knife is again to be introduced in a similar manner behind the humerus, and a flap made of the triceps; the bone is then to be cleared of all muscular fibres, and sawn off close to the base of the two flaps, and will be about an inch from its neck. The artery will be readily secured on the inner side of the posterior flap. This operation, when it can be performed, should always be chosen in preference to the amputation at the articulation, as the natural soundness and contour of the shoulder is thus preserved, and the danger concomitant with the disarticulation avoided.

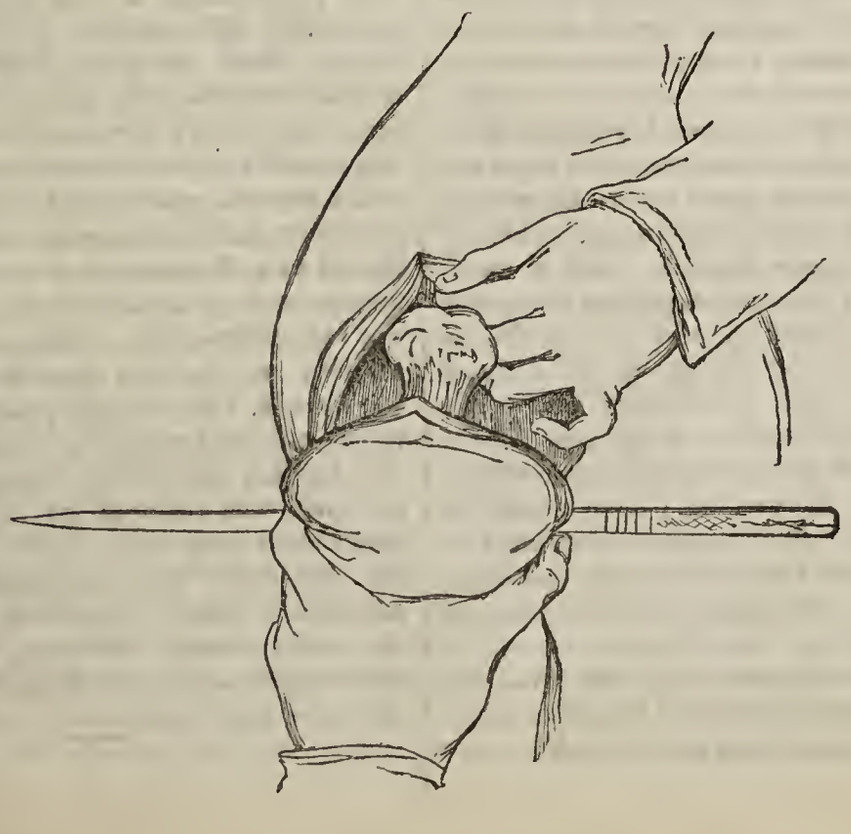
Amputation at the shoulder joint.—The amputation of the arm from the shoulder joint may be easily accomplished in the following manner, which I believe was always adopted by Baron Larrey, and frequently by M. Dupuytren :—The arm being raised from the side, and the subclavian artery compressed, the surgeon, standing on the outer side of the arm to be amputated, raises the deltoid muscle and soft parts which cover the outer and fore part of the humerus, and thrusting a sharp-pointed double-edged knife through them close to the bone, and immediately below the acromion, cuts downwards and outwards, and forms the outer flap. The joint is thus exposed, and is easily laid open by cutting through the capsular ligaments and tendons of the supra-spinatus and teres-minor mus-

cles: by bringing the elbow inwards and backwards, the head of the humerus may now be dislocated, and the knife being carried through on its inner side, the internal or inferior flap may be formed, and the arm removed. The artery need not be divided in this operation until the last stroke of the knife for the completion of the internal flap, and the surgeon may therefore compress it with the left hand before he divides it. This operation I consider the easiest in performance of the very many which have been proposed by different surgeons, but it is not the one which I have myself always followed, as I found in two instances in which I have employed it that there was considerable difficulty in healing the wound from the falling of the heavy under flap from the anterior or upper flap.

I have, therefore, in my last two cases, adopted the following plan, which I believe was first recommended by M. Lisfranc :—

The patient being seated on a low chair, and the subclavian artery compressed upon the first rib above the clavicle, the surgeon should stand on the outer side of the arm to be amputated, and if it be the left arm, behind the patient : the arm is to be slightly abducted, and rotated outwards, and a long narrow double-edged and pointed knife is to be introduced immediately below the projecting extremity of the acromion, and directed downwards and outwards along the outer and posterior surface of the humerus, until its point is brought out at the axilla just anterior to the tendons of the latissimus-dorsi and teres-major muscles. The passage of the knife is much facilitated by the soft parts being grasped by the surgeon, and raised from the bone, the thumb and forefinger of his left hand marking the precise points where the knife is to enter and make its exit. The outer flap is completed by the edge of the knife being turned downwards and outwards, and being made to cut its way out by a kind of sawing motion of the hand. The patient's arm is then immediately to be brought forward, and slightly rotated inwards, and the surgeon is again to introduce the point of the knife at the same spot in which he commenced the first incision, and the knife is to be pressed downwards towards the axilla, until its point projects just posterior to the folds of the pectoralis major, which forms the anterior boundary to the axilla ; and with the same sawing motion of the knife as before described the anterior flap is completed. A middle strip, indeed the portion constituting the floor of the axilla in the position in which the arm is held, is thus left undivided, and within this portion is contained the axillary artery as yet untouched. The two flaps being reflected, the capsular ligament and tendon of the long head of the biceps are to be divided, and the joint laid open : the tendons of the spinatus and teres-minor muscles being cut through, the head of the humerus may easily be dislocated, and the knife being passed behind it, and kept close to the neck of the bone, is to be brought sufficiently far downwards to make room for the surgeon to grasp with his left hand the undivided portion of the axilla, which includes the artery and axillary plexus of nerves, he then cuts boldly out, and the arm is separated (vide fig. 9), the surgeon still retaining the artery in his grasp until it is secured. I have twice per-

Fig. 9.



formed this operation, and found no difficulty in its execution; but, in one of the cases, the artery being secured, and Mr. Hilton, who was kindly assisting me, having removed his compression on the vessels, air rushed into the vein, and my patient very nearly fell a sacrifice. This catastrophe in no wise resulted from the mode in which the amputation was effected, and is indeed equally likely to occur with any other plan; but I mention it merely to admonish the surgeon in every operation in which a large vein in the vicinity of the heart must unavoidably be wounded, to take every precaution to prevent the admission of air into the vessel. I have published this case in my surgical lecture on the diseases of veins.

The following cases of amputation furnish examples of some of the different operations I have described as appertaining to the upper extremity:—

1. William Fosket, æt. 72, admitted with injury to the hand, caused by its being crushed between the handle and body of an iron roller. The soft parts were severely lacerated, some of the metacarpal bones fractured, and the rest dislocated, and there was considerable hæmorrhage at the time of the accident. As the local injury was so severe I determined upon amputation, and removed the hand at the wrist joint, making two flaps, anterior and posterior: the flaps were brought together by three sutures and adhesive plaster. After the operation erysipelas set in, but this yielded to the remedies applied; there was, however, sloughing of the extremity of the stump, but ultimately it healed by granulation.

2. James Dyer, æt. 28, admitted, January 9, with fungous disease of the ball of the right thumb. When about two years old this patient had been severely burned about the fore-arm and hand; during cicatrization the parts had contracted to a remarkable extent, and the thumb was so forcibly drawn back that its first phalanx was separated from the second: about three years before his admission into the hospital the skin on the ball of the thumb became fissured, and a small sore appeared; in spite of medical treatment this went on increasing, and as it appeared that remedies preserved no power to check it, amputation was determined on. The amputation was performed at the middle third of the fore-arm by the circular method, and according to the plan I have described in the lecture. This patient continued to go on well from the time of the operation until he was discharged from the hospital quite cured.

3. Dennis M'Carty, æt. 29, admitted with compound dislocation of the wrist-joint. The injury was so severe that immediate amputation was considered necessary, and the hand was removed by amputation at the fore-arm. The circular method was adopted. The stump healed rapidly, and a month after the operation he left the hospital quite cured.

4. Thos. Odinet, æt. 35, admitted with extensive laceration of the soft parts of the fore-arm, produced by its getting entangled in some machinery. At the time of the accident there was great hæmorrhage, which was restrained by binding a towel round the arm. Owing to the state of the patient's health the operation was postponed for a few days, during which the hand and fore-arm fell into a state of sphacelus. Amputation above the elbow consequently became necessary: it was performed by the double flap operation, according to the plan I have described in the lecture. After the amputation the stump healed readily, and he left the hospital apparently well: some time after, however, it became very painful, and he again came into the hospital, where a sequestrum was removed, and he became quite well.

5. Robert Lovett, æt. 36, was admitted into the hospital October 31, with disease of the right elbow-joint. The disease originated in a fall from a horse: the injury seemed to be but slight at the time, but the part became gradually worse until the admission of the patient into the hospital, when, as it was found that the disease continued to progress in spite of medical treatment, the removal of the arm above the elbow was determined on. I amputated it on February 21st (1837), adopting the circular method: there was considerable bleeding at the time of the operation, but afterwards the patient went on progressively improving until he was discharged quite well.

6. Amputation at the shoulder-joint for irritability of stump:—The subject was a female, about 22 years of age; the origin of the disease was a fall, by which she injured her wrist; the arm was consequently amputated: great irritability supervened, and a second, and even a third and fourth operation, had recourse to. As she still continued to suffer from the neuralgic pains, I determined, as a last resource, to amputate the shoulder-joint. The late Mr. Key assisted me in this operation: two flaps were made, anterior and posterior; the head of the humerus was then quickly dislocated, the axillary artery not being divided until the knife was brought out in the last incision: only very little blood was lost, and the operation was completed in seventy seconds. After the operation the patient went on gradually recovering until the time of her going out of the hospital.

Original Communications.

ON THE ART OF MAKING TRANSPARENT PREPARATIONS OF THE SPINAL CORD,

FOR SHOWING THE ROOTS OF THE NERVES BY THE MICROSCOPE.

By Joseph Swan.

The medullary matter of the spinal cord is formed of meshes very similar to those of portions of the brain. The grey matter of each quarter of the chord radiates externally; the medullary matter intervenes between the rays and receives it into its meshes, and in this manner the two kinds become gradually combined. The radiation of the grey is best seen in a thin dry horizontal section, which has been allowed to dry exposed to the air, and afterwards made smooth and varnished. A fresh slice covered with thin glass does not answer, as its character becomes in a great degree lost by drying.

The roots of the nerves just about their collection into fasciculi appear on the surface of the spinal chord immediately underneath the pia mater as a layer of coarser wavy threads; from this part they pass rather obliquely through the medullary matter towards the grey in finer wavy threads, which communicate very much with each other, and with the meshes of the medullary matter, and the extension of these amongst the grey. In some of the preparations distinct white filaments are seen ramifying over veins which remain coloured by the blood they had contained. Every filament is accompanied by an artery, and when this is more prominent there is a more harsh definition of the nerves. When the preparation has been made very transparent, the nerves disappear and become involved in the meshes of medullary matter; at the same time the arteries also become obscure. From the appearance of the preparations, it seems as if there probably existed a continuous layer of roots from one end of the spinal chord to the other. The wavy appearance of the roots on the surface and those descending into the substance of the chord may be supposed to resemble very distantly the fibrils of the roots of plants. Their character is peculiar, and different from any other arrangements of nervous matter, but by no means less beautiful.

The spinal cord receives blood not only by its anterior and posterior arteries, but by very numerous minute vessels which accompany the fibrils of every nerve into its substance: these do not divide directly amongst the roots of the nerves, but at one side or underneath each layer, give off branches which form somewhat circular brushes of capillaries, and these become insinuated amongst the roots of the nerves.

The pia mater and arachnoid membrane have both a cellular appearance, which may be mistaken for the meshes of medullary matter. This cellular appearance is obliterated by applying Canada balsam, but restored again by washing this off with spirits of turpentine: this effect is very convenient in making dry preparations of the nerves, as the membranes do not then much obstruct the demonstration of the minute roots underneath.

As the spinal cord, especially in large animals, as that of the ox, from which my preparations have been chiefly made, does not dry sufficiently transparent for exhibiting the roots of the nerves, I have been under the necessity of somewhat modifying the process previously communicated* for making transparent preparations of the brain, and I will endeavour to describe the change required as briefly as possible.

The spinal cord is to be cut into pieces of one or two inches long, so that each may include all the roots of one or more nerves in each quarter. The dura mater is to be removed, and the nerves preserved as far as the ganglia. Each portion of the cord is then to be divided through the median line, and each half again between the appearance of the anterior and posterior nerves, so that there will be four quarters separated. As the roots of the nerves enter rather obliquely, it is necessary to cut off close to the nerve a somewhat triangular portion of each side of one of the quarters, so as to

* Medical Gazette, March 16, 1849.

make the preparation a flat piece, containing the nerves and their continuation through the medullary and grey matter. The piece thus cut is to be placed on a glass slide, and dried before the fire on a plate covered with paper. In two or three days it is to be raised from the slide with a thin scalpel, and the soft matter underneath is to be carefully removed; it is then to be placed on a fresh slide, and gently pressed on this with the finger, and there remain until it is dry. When dry it is to be raised again from the slide, and turned over, that any matter preventing the transparency may be removed: this is known by holding it from time to time to the light. This process of clearing is facilitated by moistening it with spirits of turpentine now and then dropped on it. If it had become uneven on the surface in drying, another slide may be pressed on it gently so as to flatten it; it may then be examined by the microscope, and any matter still obscuring it be removed. When it has thus been made sufficiently transparent, a little thick Canada balsam is to be smeared on the under surface, and by means of the ball of a finger moistened with spirits of turpentine, pressed on the slide so as to remove any vacuity or air-bubbles, which otherwise make the preparation uneven under the microscope, and give the idea of a membrane or some different substance intervening amongst the rest. The next day a small drop of Canada balsam is to be smeared over the surface of the preparation with a finger, and immediately after two or three drops of spirits of turpentine; and this process of applying the balsam and spirits of turpentine may require to be repeated two or three times for giving sufficient clearness, and guarding it from mould and atmospheric changes. Although it wants to be transparent, it does not require to shine as if it were varnished, and therefore the balsam and spirits of turpentine are directed to be wiped off with the finger. I have been several times very much mortified to find that the beautiful and delicate nervous roots had vanished after the application of Canada balsam, but had afterwards the satisfaction of discovering that they returned after I had removed this with spirits of turpentine.

Another preparation may be made by cutting off a portion of the surface of the spinal cord, with very short ends of nerves attached to it, and very little of the medullary matter underneath. It is to be dried, and treated like the other preparations, and when finished it will show the nerves very beautifully, as they are collecting themselves into fasciculi; and some parts of it will be found only a coarser representation of the more internal roots. Another preparation of a similar kind may be made by leaving the medullary surface uppermost, when nearly the whole of the medullary matter has been removed.

It is often necessary to put the spinal marrow in water for taking away the extravasated blood, and then it becomes very soft, and probably will be spoiled: in this case, or if putrefaction be approaching, it may be put into a mixture of two-thirds of common vinegar and one of alcohol, and may remain in this, after it has been cut into pieces, for a few days or weeks, and then be made into preparations, but it is much longer in drying than by the first method. This process is worthy of particular attention, as the difference between the white and grey matter is well preserved by it, and the preparation capable of being made thinner and more transparent; consequently, however, more care is required in removing the soft matter underneath, and performing the other manipulations. The preparation thus made is also more quickly finished; for when all the opaque matter has been removed by the scalpel and spirits of turpentine, the canuda balsam may be at once smeared on the under surface, and the piece be placed permanently on the slide.

I have, according to the preceding directions, acquired about a hundred very interesting preparations; and although they have cost me almost infinite time and pains, I feely amply rewarded by having succeeded in seeing one of the most interesting points of anatomy far better than I had previously done by any other means.

6, Tavistock Square,
Sept. 19th, 1849.

CASE OF

FUNGOID DISEASE OF THE BLADDER:

WITH REMARKS.

By W. B. Kesteven, M.R.C.S. &c.

G. F., æt. 60. By occupation was formerly a cook at one of the colleges in a well-known University town, but from which occupation he had retired several years since. He had always enjoyed good health. During the last summer he occasionally complained of pain in the loins, and of excessive fatigue after exertions which he had formerly regarded as nothing. In the month of September last he began to experience pains in the region of the bladder, and through the pelvis, with unusual demands to micturition, and pain in the glans penis. These symptoms steadily augmented in severity, with emaciation of body and sallowness of complexion, up to December: since then they have remained much the same, until within the last fortnight of his life, during which period the pain had become very acute, and the calls to pass his urine as frequent as every half hour; so that, except under the influence of morphia, his nights had been sleepless. Hæmaturia has also occurred at uncertain periods. The bowels have been very costive. The pulse has seldom exceeded 80 in number, and has been soft. Loss of appetite supervened, with occasional vomiting, and he gradually sank, and died on the 11th inst.

This patient had been seen by the late Mr. White, of Parliament Street, and more recently by the late Mr. Aston Key, but the precise nature of the disease under which he was suffering remained doubtful. The presence of a calculus in the bladder was suspected, but could not be detected by the sound, the employment of which caused acute pain. It was surmised that the disease might be of a gouty or rheumatic character; and this opinion seemed confirmed by the patient's past mode of living, and by his having experienced considerable relief of pain on the occurrence of a slight attack of rheumatism in his arms, in the month of April last.

The diagnosis, however, against which the fewest objections offered themselves, and in favour of which the symptoms, both present and absent, most strongly declared, was that the disease consisted in fungoid disease of the bladder. This diagnosis, as we shall see, was confirmed by post-mortem examination of the body made eight hours after death.

The abdominal cavity contained about three pints of clear yellow fluid. On passing the hand into the pelvis, the bladder was felt contracted to the size of a small orange, and connected with a hardened mass, extending to, and united with, the plane and crest of the ileum, as far back as their junction with the sacrum. When removed, this mass appeared to consist of an enlargement and transformation of the absorbent glands into cerebriform cancer. This mass was continuous with the left side and posterior aspect of the bladder; on the right side and anteriorly it was free from attachments.

When the bladder was laid open, its posterior aspect presented internally a number of irregular-shaped fungoid growths, but little elevated above the surface, and varying in size from that of a hazel nut to that of a large pea.

Viewed under the microscope, with a quarter-inch focus, magnifying to 360 diameters, the fungoid growth was seen to consist of numerous transparent molecules and cells, some containing two nuclei, but the majority exhibiting only one nucleus, the intervening cellular space being filled up by minute point-like granules. Mixed with these were a small proportion of caudate and spindle-shaped cells.

The substance of the diseased glands and their associated growth presented cells of similar characters, but grouped together to the number of four, five, seven, or even more in one group.

Drawings of these structures were taken at the time, but better representations of similar diseased formations may be found in Dr. Bennett's work on Cancer: they have therefore been withdrawn. The muscular coat of the bladder posteriorly was entirely removed; no trace of its fibres could be discovered in that portion; but passing thence anteriorly, the unstriated fibre was met with, at first mixed with the above described bodies, until at its an-

terior portion the fibres were found free from the cells, &c. This portion alone remained capable of expelling the urine.

The left ureter was distended to the size of a large swan quill; the pelvis and infundibula of the same kidney were considerably distended; the cortical substance was atrophied, and did not exceed the eighth of an inch in thickness. The right kidney was enlarged and congested, but otherwise looked healthy.

Remarks.—Fungoid disease of the bladder is not so frequently met with as cancerous disease in other structures and organs. Only one case is recorded by Dr. Bennett among the extensive series of observations contained in his recent work on cancerous and cancroid growths. Mr. Bransby Cooper, in his lectures in course of publication in the Medical Gazette, speaks of fungoid disease of the bladder as "very rare," and relates the particulars of a case in which hæmorrhage to a considerable extent occurred (Med. Gaz. N. S. vol. vii., p. 595). Mr. Nunn exhibited, at a meeting of the Westminster Society, the bladder of a man in which was a fungous growth the size of a walnut. The patient died apparently from hæmorrhage (Med. Gaz., N. S., vol vii., p. 129). Mr. Bulley records in the Med. and Prov. Med. Journal, a case in which a fungous tumour was found as large as a middle-sized cocoa nut (see Med. Gaz., N. S., vol. i. p. 1177). This form of disease of the bladder is passed over by Cooper in his Surgical Dictionary.

These facts are here mentioned to show the rarity of the disease. Unfortunately the diagnosis is not the more facile, as is the case with some rare forms of disease. The difficulty of its detection is in some cases very great, while the means of exploration necessary to its discovery tend only to aggravate the disease.

It may be of practical utility to review the grounds upon which the diagnosis in the case before us was arrived at.

1. The pain, which was of a severe dull aching character, with occasional acute paroxysms, was not confined to the region of the bladder and end of the penis, but extended through the pelvis up the loins, and down the thighs.

2. The failure of the detection of stone by the sound. The intense pain and extent of hæmorrhage induced by this operation.

3. The small quantity of urine that the bladder could retain.—seldom more than from an ounce and a half to two ounces being voided at a time, and this necessarily inducing frequent urgency to micturition.

4. The quality of the urine: when unmixed with blood, it was perfectly clear, and free from mucus or pus; its specific gravity was from 1·010 to 1·015. Tested by heat, nitric acid, and the nitrate of mercury, it yielded scarcely a trace of albuminous matters.

5. The irregular occurrence of hæmaturia, and the variations in the only slight extent to which this symptom occurred.

6. The general symptoms were those of malignant disease, as exhibited in the rapid emaciation, the cachectic aspect of the countenance, and the absence of the signs of other constitutional disease,—as rheumatism, gout, &c.

7. The effect of remedies. Morphia alone gave any relief, and it was only by the employment of large doses that life was tolerable.

The case here related possesses interest from the form in which the disease became developed. It did not assume the usual form of an ovoid tumor, but was diffused in the form of irregular sized non-encysted elevations over the internal surface of the bladder, the outer surface of the bladder itself being continuous with the hardened mass of cancerous disease contained within the pelvis.

In consistence it neither presented the softness of fungus hæmatodes nor the firmness of cancer: its colour varied, being on the most prominent points of a dark red, verging in the interspaces through pink to pale flesh colour. The surface presented no ulceration, nor was pus detected on the surface by the microscope. This circumstance corresponded with the absence of albuminous fluid to the ordinary tests, as well as to the more delicate reagent, the mercurial test introduced by M. Millon; the particulars of which may be found at p. 262

of the present volume of this journal. We may take this occasion to observe that this mercurial solution forms an extremely delicate test for the presence of albumen; so much so, that it is scarcely possible to examine by its aid any specimen of urine without detecting the presence of the albuminous fluids of the mucous canals through which that secretion passes.

We regret much that opportunity was not afforded in this case to ascertain the presence or absence of similar disease in other organs; but, from the otherwise entire good health, and complete absence of symptoms referrible to the organs that were not examined, we may with some reason assume that it was confined to the bladder and its vicinity.

The course of the disease in this case may be considered to have been of the average duration. Though, in some instances, fungoid disease has been known to exist two or even three years—and in the case of a fungoid tumor of the brain, which the writer once met with, it had apparently existed many years—yet its course is generally run in a few months. Herein this form of malignant disease presents one feature of difference from the hard forms of cancer known as scirrhus. It is, however, by some pathologists regarded as distinct from cancer. Dr. Copland thus distinguishes between them :—"The fungoid disease always consists of a more or less evident tumor, which destroys every trace of any other structure. Carcinoma, even in an advanced stage, when fungous projections sprout from its ulcerated parts, presents but little vascularity; whereas fungoid disease possesses large vessels and vascular cavities, so that it derives one of its common names from this circumstance. Cancer affects the aged; fungoid disease the young." (Dictionary of Practical Medicine, Art. Fungoid Disease.)

In the example now related the disease did not assume the distinct form of a tumor; it was eminently vascular, and the subject of it was advanced in life before it manifested itself. It was continuous with, and formed the free surface of, cerebriform cancerous degeneration of the pelvic glands and other structures. We are, therefore, disposed to regard the fungoid growth in this instance as produced consecutively on the primary cancerous growth. Dr. Copland states this as the rule:—"When fungoid disease attacks young persons, it is always a primary and distinct malady; and when it affects persons advanced in life, it is either primary, or consecutive of, and complicated with, carcinoma." (Dict. *loc. cit.*)

The microscopical examination presented "cancer cells" throughout the whole mass of disease, and exhibited distinctly the transition from the cancerous disease to the secondary fungoid growth; confirmative of the views of Dr. Copland, as already noticed. The presence of "cancer cells" was here so abundantly exhibited as to prevent any doubt of the nature of any portion of the growth. It presented, also, other elements of cancerous growths—fibres, fusiform cells, compound granular cells, molecules, diaphanous cells, &c., &c.

The present case throws but little light on the etiology of cancer. Dr. Bennett considers that cancer originates in derangement of the functions of secondary digestion; while tubercle originates in disorders of the primary digestion: the period of life of the instance before us being that at which these derangements are most frequent, coincides with this opinion. No hereditary disposition could be traced. The habits of the patient had led him to the consumption of large quantities of animal food, wine, &c.—circumstances which have been supposed to favour the production of the cancerous diathesis, but which, however, cannot be regarded as influential otherwise than as interfering with the assimilation of nutriment.

BRIEF NOTES ON THE

EFFECTS OF THERAPEUTIC AGENTS IN CHOLERA.

(THE LEAD TREATMENT.)

By Charles Beckett, M.R.C.S.L. L.S.A.

Senior Surgeon to the Hull and Sculcoates Dispensary, and one of the Surgeons for Cholera.

Convinced from analogy, no less than from actual observation, that no one plan of treatment—no fondly cherished and exclusive remedial agent—is applicable to the immense variety of disease included in the generic term "cholera," I have thought that the actual experiences of one who has no system

to uphold might be of service to those who may be hereafter called to the responsible duty of treating similar cases, many of whom are perhaps as much baffled by the views as by the cases presented to them.

Cholera, perhaps more than any other disease, requires for its most efficient treatment a mind open to conviction—free from unworthy prejudices—and withal quick in drawing important distinctions for the guidance of our remedial measures. It is, however, no less pitiful than strange, that it forms the very stronghold of quackery, being open to all sorts of "lay" and empirical treatment, which ranges from Cognac to castor oil, or what is still worse, from capsicum even to calomel.

I will now, therefore, briefly detail my own experience (during the present epidemic) of the following remedies, all, as I believe, *of high value* in appropriate cases, viz.:—

Acetate of lead, with opium.

Calomel and opium.

Chloric æther.

Neutral salines (effervescent or otherwise).

Calomel alone.

Vegetable astringents, as aromatic confection, &c.

And first, as to the *acetate of lead.*

The formula which I have employed is that of Dr. Graves, viz. one scruple of the acetate of lead, with one grain of opium, made into 12 pills: one to be taken every half hour till the vomiting and purging abate.

This treatment I have found from repeated trials to suit admirably the following cases:—

1. Choleraic vomiting and serous purging in children, with or without syncope or partial collapse.

These, though cold, pulseless, and with sunken eye and expression, having often been entirely restored by the use of a few of the pills, administered as such, or crumbled down in sugar, &c.

2. Choleraic purging and vomiting in chlorotic and languid females, who suffer much, and sink early into severe collapse if not checked. I have cured many of these by it alone, without a grain of mercury, even when cramps and partial collapse, with restlessness, had set in.

3. The exhausting vomiting and purging which occurs in pregnant females, who with us have been especially obnoxious to the disease. In such cases active mercurial treatment seems highly objectionable if it can possibly be dispensed with. One of these cases has (by this remedy chiefly) been raised from a state of the utmost prostration and emaciation, so as to surmount the danger of parturition, and is now perfectly well.

4. The cases of old and exhausted subjects, whom calomel seldom suits, is well met by the lead and opium, as I have found in many instances.

In fine, the whole therapeutic action of the acetate of lead convinces me of the absence of any *materies morbi*, in many forms at least of this complaint, the belief in which naturally leads to active expectant treatment for its elimination; for no cases with me have done so well as those where the restraining influence of the lead at once put a stop to all serous loss, leaving the restoration of the hepatic and renal secretions to the natural powers. In dismissing this remedy, I cannot but gratefully endorse all that has been said by Dr. Graves as to its immense value in hopeful yet precarious states of choleraic discharges, especially in children, irritable adults, anæmic and pregnant females, and aged persons.

I have never seen colic or paralysis follow its free employment, but more than once have observed the "blue line" along the margin of the gums, showing the absorption of the remedy.

The advantage of the lead over other direct astringents appears to be its small dose, easily swallowed and retained; whereas the bulky and nauseating compounds of catechu, kino, &c., are seldom tolerated during the progress of true cholera, even in its milder forms. Added to which we must not forget its direct sedative power exerted upon the ganglionic system.

If a pill thus composed be placed in water, its milky solution may represent the lotion-like sedative and astringent solution which is thus employed for the lavement of the congested and irritable mucous surface.

Mialhe says that lead invariably forms a dense compound with the albumen of the animal fluids, which is ultimately redissolved by the chlorides.

This may explain its value in hæmorrhages as well as in cholera and dysentery, and is quite in accordance with experience. Should this fact in

chemico-physiology be established, it would add the sanction of enlightened reason to the employment of an agent already highly valued for its powerful and constant effects.

If all cases were seen sufficiently early, I should regard the lead treatment of choleraic discharges as actually specific, excepting in those cases where the temperament and appearance of the patient point to defective secretion, especially of the liver, and where of course alteratives are indicated.

But even in such cases there is no reason why the lead should interfere with the use of other remedies; thus, for instance, it may be given along with an aromatised effervescent, or with chloric æther and camphor mixture, or alternated with alterative doses of calomel or grey powder. All this I have repeatedly done during this epidemic, and with the most gratifying results.

I would therefore cordially recommend the acetate of lead, with opium, to the confidence of my professional brethren: its rationale is simple; its operation is direct and rapid; and its value is, in the cases described, inestimable.

Hull, Sept. 29, 1849.

[To be continued.]

ON DR. AYRE'S TREATMENT OF MALIGNANT CHOLERA.

(THE CALOMEL TREATMENT.)

By Joseph Bullar, M.D.
Southampton.

Having had an opportunity of closely watching the effects of small and repeated doses of calomel in malignant cholera, as recommended by Dr. Ayre, of Hull, I beg briefly to state the results, reserving the details for another occasion.

There was a certain class of cases in which calomel had no effect either way: it neither shortened life nor prolonged it. The system was insensible to its presence. These were persons about or above forty years of age, whose previous health had been impaired, or who had been exhausted by bodily fatigue, and in whom *the collapse was sudden.* When first visited, shortly after the seizure, they were pulseless, cold, covered with cold sweats; vomiting, and passing by stool the rice-water evacuations; and painfully cramped. These cases terminated fatally in eight, ten, or twelve hours.

In patients of the same class where the collapse was not so sudden, the calomel was more effective, and several of these recovered who would have died otherwise.

In younger persons, and in children even, when the treatment was not commenced until they were in a state of decided collapse, with all the characteristic symptoms of the malignant type of the disease, the calomel thus given was strikingly beneficial: not one of such patients died, although they were in the same state, in the same locality, and some in the same houses in which others had sunk so rapidly under different treatment.

The dose given was one, and sometimes two, grains of calomel mixed with two grains of powdered white sugar, every ten minutes until the diarrhœa ceased, the pulse became perceptible, and there was some warmth of surface. When the stomach was so irritable as to reject every thing, four or five drops of laudanum, or two or three drops of the hydrocyanic acid of the London pharmacopœia, in a teaspoonful of water, were given after each powder as long as was necessary. The patients were allowed to drink as much cold water as they chose, and occasionally, for the debilitated, a little brandy was added. The secondary diarrhœa produced by the calomel, which occurred a few hours after the serous diarrhœa had ceased and reaction was established, was not interfered with. The first evacuations were of that spinach-green colour which is produced by calomel, and they gradually became yellower. Diluents, and light cool broths, and farinaceous food, were given in this stage. These observations refer exclusively to cases of malignant cholera of a very fatal type, all occurring in the same highly infected locality, all treated in the houses where they were attacked, and to the stage of decided or commencing collapse. They were cases such as I should have regarded as hopeless before I tried Dr. Ayre's treatment—to which, I may add, I felt an *à priori* repugnance, and only resorted to it at first as the "anceps remedium melius quam nullum."

October 1, 1849.

MICROSCOPIC EXAMINATION OF THE DISCHARGES IN CHOLERA.

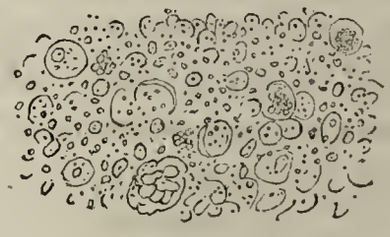
By Thomas Williams, M.D., Londin.
Licentiate of the Royal College of Physicians.

Since my last communication to the Gazette, which I accompanied by one or two illustrations, selected in a great hurry out of a large collection of sketches made from time to time during the past twelve months, demonstrating what I had ventured to interpret as vegetable organisms present in the discharges of cholera, time has been allowed me to find those which represent these bodies as they most frequently occurred under the microscope. In this paper, I wish merely to state a few further particulars in relation to the microscopic history of these singular objects. I had availed myself of every opportunity afforded by post-mortem inspections to determine whether the epithelium taken from any part of the intestinal tract could, by disintegration, or some other modifying process, be changed into the appearances observed in the fluids of cholera patients.

The results of these investigations are contained in descriptions and sketches in my note-books, parallel contrasts being repeatedly drawn between them and the bodies so distinctive of cholera fluids, and the inference pressed that the latter could not have consisted of disintegrated or modified epithelial particles. The vomited and dejected fluids in every instance brought under my notice possessed a greater or less degree of tenacity, resembling a fluid holding gum, slime, or mucus, in solution. This mucosity, on standing, subsided to the bottom, leaving a supernatant stratum of clear fluid, presenting invariably a sp. gr. little exceeding that of distilled water, ranging from 1·005 to 1·010; but, when the vessel was placed in a room of moderate temperature, after an interval of twenty-four hours the mucosity would again ascend into the clear fluid, appearing to swell by growth or fermentation.

From a repetition of the observations, I became so convinced that there was in the evacuated fluids a peculiar yeast-like substance, that in showing the vessels to my friend Mr. Jenkins, M.A., I observed—"Here, is, I am convinced, choleraic virus enough to inoculate the whole population of the town with cholera." The characteristic bodies were more certainly and in greater number detected in this gelatinous, mucoid substance, than amidst the heavier deposit composed of lithic and phosphatic crystals, and epithelial scales, occupying the bottom of the vessels. Under low powers, as the half and quarter of an inch (Powel and Sealand's), this mucous cloud resolved itself into a thick collection of pellucid molecules, which, in every instance, as shewn in all my drawings, were more or less numerously interspersed by what gave the appearances of dehisced or emptied cell-capsules The pellucid granules I interpreted as the progeny of the cells, the involucra of which were constantly discovered in the same specimen. Examined under Powel's one-eighth, the following illustration taken from my note-book, the copy and the original having been shewn to several gentlemen, affords an exact conception of the characters presented by this curious substance.

Fig. C.



Mucous substance from the dejections of cholera patients: in the characteristic rice-water discharges the above represents the appearances under a high power. The group is composed—1st, of large compound cells, sometimes oblong, sometimes polygonal, and *not* frequently detected; 2nd, of fragments of involucra, *lunated*, and flattened; and 3rd, of granules or molecules, assuming under a high power a discoid character.

Fragments of cells, like half moons, or three-fourths crescentic in figure, surrounded by pellucid molecules, which under the highest powers assume the forms of transparent discs, and may be readily regarded as the early stage of the former variety; and lastly, the compound cell, pregnant with secondary cells and moleculares, which, in consequence of mutual adhe-

sion or mutual pressure, receives a flattened polygonal, and not unfrequently an oblong and oval outline. My examinations of cholera discharges during the past summer have been very numerous, having attended no less than 200 cases of cholera and choleraic diarrhœa of various degrees of mildness and severity. In *every* instance I kept separate sketches of what I saw under the microscope; in every instance where the discharges were characteristic, the three varieties of cells above represented were detected; in some only the compound cells. In no instance in which the fæcal matter was natural could these peculiar bodies be discovered. But it never occurred to me to view these bodies as cryptogamic organisms, until I became persuaded that this slimy element of the choleraic fluids grew in amount, after the manner of the yeast ferment, when these fluids were preserved in vessels,—and not until direct examination convinced me that this "frothing" or increase of the mucoid substance could not have been due to any chemical change. The microscopic appearances which I have endeavoured to describe have been so constant and uniform in true choleraic evacuations, that the most cautious cannot refuse to admit the bodies described as peculiarly distinctive of cholera fluids. On the full admission, however, of the fungal nature of these organisms, the exact relation in which they stand to the phenomena of cholera, how the presence of a vegetable substance in the alimentary canal can give rise to a frightful rush of fluid from its parietes; in what manner scientific ingenuity can trace such disproportionate results up to such inadequate causes; in what the intermediate lesions consist,—in fact, the living pathology of the disease,—can only yet be fancifully conjectured. According to my examinations, the slight opacity in cholera discharges, occasioned by heat and nitric acid, very unlike that white coagulation denoting the presence of true albumen, is due to the changes wrought by these agents on the mucous substance already described.

Swansea, Sept. 25th, 1849.

P.S.—Since the above was written, the GAZETTE has afforded me the opportunity of acquainting myself with the gratifying results of Mr. Brittan's and Mr. Swayne's researches. Without the slightest desire to divide with them any honour which may attach to these observations, after a careful comparison of their descriptions and figures with my own, it has appeared certain to those who have made these comparisons that the objects described are really the same, although perhaps the phenomena have not been similarly read; but it is impossible to deny to Mr. Brittan the merit which belongs to the highest order of philosophical research. The calmness, completeness, and caution, which distinguish the spirit of his communication, must challenge universal admiration. To Mr. Brittan alone is due the honour of having imparted *true value* to the discovery of vegetable organisms in the discharges by establishing their identity with bodies existing in external sources. The microscope has established a grand epoch in pathological medicine. Demonstration has taken the place of vague and baseless hypotheses in the study of a class of diseases embracing the most fatal and malignant to which the human body is incident.

ON THE

ACTION OF THE ILEO-CÆCAL VALVE IN STERCORACEOUS VOMITING.

BY GEORGE ROPER, M.R.C.S.E. &c.

As stercoraceous vomiting, although it really does occur, may be, and has been, doubted, in consequence of the obstacle opposed to the upward passage of fæcal matter from the large intestines by the ileo-cæcal valve, the following remarks are made to show the manner in which it appears the contents of the large intestines actually do not pass upwards through the valve.

The perfection of the valve is demonstrated by removing the cæcum, with a portion of large intestine attached, and injecting the latter with fluid, when the cæcum will be ruptured by the distending force of the fluid before the valve can be made to give way.

Seeing such a barrier to the retrograde movement of the contents of the large intestines,—in what manner do

they escape through the valve to be rejected by the mouth? It appears to happen as follows:—When obstruction exists in the large intestines, their fluid contents begin to accumulate at the seat of stricture; as accumulation goes on, the portion of intestine between the valve and stricture becomes completely filled, and the valve is shut by the retrograde pressure of the fluids. Up to this point in the process no feculent matter can regurgitate into the small intestines: the greater the effort at regurgitation, the more forcibly is the valve closed.

The large intestines being now filled, and the valve closed, another process commences: accumulation begins to take place in the lower part of the small intestines. When accumulation has progressed to a certain extent, the fluids there collected begin to exert a pressure on the upper surface of the valve. Thus it will be seen there are two antagonistic forces acting on the valve at the same time; the one from below, caused by pressure of the fluids of the small intestines, closing the valve; the other from above, caused by pressure of the fluids of the small intestines opening it; and when these two forces become equally balanced, the valve floats loosely, and ceases to act as a valve,—thus allowing the contents of the large and small intestines to commingle and become diffused with each other.

It will now be seen how the fluids of the small intestines are impregnated with stercoraceous matter: they have derived this character from the feculent contents of the large intestines having passed upwards through the cæcal opening while its valve remained in a state of equilibrium.

The above remarks appear to explain the only way in which the feculent matter of the large intestines can pass upwards, as seen in cases of stercoraceous vomiting: reversed peristaltic action alone of the large intestines would only ensure a more complete closure of the cæcal valve; a counter-pressure from above, caused by accumulation in the lower part of the small intestines, being an essential cause to produce equilibrium, and consequent inactivity of the valve.

This explanation has been suggested by the fact that I have lately observed in a post-mortem inspection great distension of the small intestines with stercoraceous fluid, in a case of mechanical obstruction, where the stricture was seated in the lower part of the descending colon.

23, Soho Square,
Sept. 19, 1849.

POPULAR PHYSIOLOGY.

A SMATTERING of physiology, as of anything else, must breed mischief. There was a notable instance of its tendency, not long since, in the case of a well-known "philosopher" of the other sex. This lady, who is remarkable for her acute and masculine intellect, was so charmed with the discovery that chemical changes in the ultimate molecules of the body would account for the circulation of the blood, that she at once degraded the human heart to the rank of an "auxiliary" among the forces which sustain life. In the same manner, but in an infinitely lower scale, the writers for daily journals pipe their thin treble of commendation or blame upon medical subjects, pronouncing judgment upon systems and modes of treatment with the perfect self-complacence of *cognoscenti*. A large portion of the clergy, here and there a lawyer, numbers of so-called literary persons, and people of every class, down to the toothless crone and just emancipated school-girl, range themselves under the banner of one 'pathy or another, which have nothing in common but their decided antipathy to medical science and common sense. And it is precisely amongst the "diffusion of knowledge" classes that such heresies recruit their ranks. Yet, let it not be supposed that medicine is alone in suffering by these presumptuous encroachments. The evil is one that pervades society, and, like a poisonous gas, lifts up the weaker minds against knowledge and authority. The layman confutes the theologian, the jury gives law to the bar and to the bench, the politician sneers at the circumspection and tardiness of the statesman, and the rank and file imagine that victories are won by them, and not by their leaders' skill. In this new edition of "high life below stairs" it would be strange if physicians were not caricatured, and their rights challenged. Viewing these things as amongst the follies of the time, let us not be anxious overmuch about the popular esteem; but taking care to set our own house in order, let us endeavour to deserve the approval of conscience, and the respect of posterity.—*American Journ. of the Medical Sciences.*

MEDICAL GAZETTE.

FRIDAY, OCTOBER 12, 1849.

THE necessity for the settlement, by an act of Parliament, of the rights and privileges of medical practitioners in the United Kingdom, is becoming every day more urgent. The case which we here subjoin shows what advantage may be taken by patients disposed to be dishonest, of the present unsettled state of medical law. The payment of a bill, however reasonable, may be objected to, and a practitioner duly qualified may be told that he is not *legally* qualified, and that he cannot recover the amount in a Court of Law, although he may be a member of the College of Surgeons, and a Licentiate of the Apothecaries' Society. It has been held by the Courts that a surgeon having a certificate from the College of Surgeons cannot recover for medicines and attendance on a patient labouring under typhus fever, unless he have also a certificate from the Apothecaries' Society. The reason assigned for this is, that the charges are incurred for attendance on what is not a *surgical* case. General practitioners have therefore wisely protected themselves by taking out the College Diploma and the Certificate of the Apothecaries' Society. They are thus prepared to maintain their right to remuneration for attendance on either a surgical or medical case. If, however, the *opinion* here given by Mr. Howard Fellows, a barrister, be law, they cannot recover for attendance on *surgical* cases, although armed with a surgical diploma. In fact, it is plainly stated by this gentleman that they are not in a legal point of view *licensed surgeons*, 1st, because they have not been examined by the Bishop of London, and the Dean of St. Paul's! and 2nd, because they are not *licensed under* the act of George II.

"CASE.

"Messrs. W. and S. are General Practitioners, having passed the College and Apothecaries' Hall, and having the usual license from the latter body. They have been professionally employed by Mr. R. to set a broken leg, which they did, and afterwards applied for their charges, but the claim was resisted, because as R. in a letter to them says—'you know you are not licensed as surgeons, and therefore cannot make me pay; nor will I do so unless you make the above deductions from your bill, which, as it stands, I consider unreasonable.' Messrs. W. and S. thinking their charges fair, have issued a writ for the amount, but before incurring further expense wish to know whether any license is neccssary, because if it is, there is no doubt but that R. would take advantage of the want of one. Messrs. W. and S. have never heard of any license for a surgeon, or that any one who had passed the examinations was not fully entitled to practise. It is assumed that the *apothecaries'* license has nothing to do with *surgery*, and that they could at any rate recover for the medicines supplied during the process of the cure."

"OPINION.

"It is not stated when the attendance took place, but as will be presently seen that does not make much difference. At common law no license of any kind was necessary for a surgeon, and consequently ignorant persons were in the habit of practising. To prevent this it was enacted by 3 Hen. VIII. c. 11, s. 1, that 'no person *within* the city of London, nor within seven miles of the same,' should practise surgery except he be admitted by the Bishop of London, or Dean of Paul's; and by sec. 2, 'no person *out of* the said city and precincts of seven miles' shall so practise unless he be approved by the Bishop of the Diocese. There are, however, two exceptions to this rule. The first (within which the plaintiffs do not come) is contained in the 34 and 35 Hen. VIII. c. 8, which allows any one to practise *gratuitously* without a license; and the second in the 18 Geo. II. c. 15, s. 8, which authorizes

persons licensed by the company of surgeons to practise 'throughout all and every his majesty's dominions.' The examination by the *College* (which is a different body from the *Company*) of Surgeons is merely voluntary, and as not passing it works no disability, so passing it confers no legal rights. Unless, therefore, the plaintiffs are licensed under the acts of Hen. or Geo., they cannot recover (Cope *v.* Rowlands, 2 M. and W. 149, where it was held that an *unlicensed* broker could not sue for his commission), and must therefore take what the defendant offers, as by bringing their action they would probably lose all: they clearly could not *compel* payment, even for the medicines, for they were used as ancillary to a surgical case (Alison *v.* Haydon, 4 Bing. 619), and not supplied by the plaintiffs as apothecaries, but as surgeons.

"THO. HOWARD FELLOWS.

"1, King's Bench Walk, Temple,
"6th September, 1849."

Many of our readers will peruse this legal opinion with astonishment. With all deference to the learned gentleman who has attached his name to it, we think it unsound, and that Messrs. W. and S. can bring their action and recover the amount of their bill for surgical attendance. Such a plea as that a man holding the diploma of the College is not a "licensed surgeon," has, we believe, not yet been heard of in our courts, even where defendants were disposed to go to the greatest extremes, and to adopt every quibble of law, in order to defeat an equitable claim. Mr. Cox sued the Midland Railway Company as a surgeon, in a case in which the Company refused to discharge his bill for surgical attendance rendered necessary by a railway accident, and yet we think we may venture positively to assert that he holds no license as a surgeon from the Bishop of London, the Dean of St. Paul's, or the Bishop of his diocese! The action turned out ultimately to be unsuccessful on the ground of non-liability. No attempt was made by the Company to dispute Mr. Cox's right to recover on any such frivolous pretence as that to which we think Mr. Fellows has given undue importance.* We have read the acts referred to by Mr. Fellows, and can find in them nothing to confirm the opinion he has given. The 3rd Henry VIII. requires, as above stated, a clerical license. The 34th and 35th Henry VIII. gives free trade in surgery to any one who thinks he has "knowledge and experience of the nature of herbs, roots, and waters, or of the operation of the same by speculation or practice," &c. The only act bearing upon the case is the 18th George II. c. 15, which became law in the year 1745. This, for the first time, separates the Corporation of Surgeons from the Corporation of Barbers. A new Body Corporate was created by this act, to be called by the name of "Masters, Governors, and Commonalty of the Art and Science of Surgeons in London." Examiners in surgery were appointed, and by the 8th section it is enacted, that all persons who have been, or hereafter shall be, examined and approved pursuant to the rules of the said Company, shall be entitled to practise freely and without restraint the art and science of surgery throughout all and every his Majesty's dominions, any law or custom to the contrary notwithstanding. All the rights and privileges granted by former acts and charters are confirmed to the members of the said Company of Surgeons.

It is, we think, therefore clear that the 18th George II. abolished for ever the clerical examination ordered by the 3rd Henry VIII., and the only question which arises in reference to licensed surgeons is—Has the 18th George II. been repealed by any other

* See case MEDICAL GAZETTE, Vol. xli. pages 607 and 596; also Vol. xliii. page 159.

act passed since the year 1745? If not, it is clear that it must still have the force of law. In the year 1800 the present College of Surgeons was constituted by charter granted by George III., and this charter, after reciting the acts of Henry VIII., Charles I., and George II., proceeds thus—"And whereas we are informed that the said Corporation of Masters, Governors, and Commonalty of the Art and Science of Surgeons of London hath become, and now is, dissolved." It does not appear, however, how, when, or where, the Corporation of Surgeons created by the 18th George II. was *legally dissolved.* A charter being a private grant of the Crown cannot repeal an Act of Parliament, nor is it of any legal validity in Courts, except in so far as it runs with the law of the land. The charter granted in 1800 by George III. cannot divest members of the College of the legal rights and privileges conferred by Act of Parliament in 1745, any more than the charter of 1843 can divest them of the legal rights continued and confirmed by the charter of 1800. Irrespective of the legal impossibility of the will of the sovereign thus superseding the law of the land, it would have been a suicidal act on the part of the new College if, by the charter of 1800, it had abandoned any of the rights pertaining to its members by virtue of former acts and charters. That they have not made this surrender, and that every member of the College now enjoys in full the rights conceded by the 18th George II., is evident from a document now before us—"A Return made to the House of Commons on the 8th August, 1845," in which the College of Surgeons, among other Medical Corporations, was required to give a definition of the rights and privileges which its diploma or license conferred on the possessor. In this return we find the following authoritive declaration:—

"By Charter granted to this College in 1800, it was ordered that the College should exercise and enjoy *all the liberties, privileges, and immunities, granted and confirmed to the then late dissolved Corporation of Surgeons by any prior Acts of Parliament,* or Letters Patent, or otherwise lawfully acquired, or belonging to the late Corporation."

Either this Charter of 1800 has the force of law, or it has not. If it has, then every member of the new College is *de jure* a member of the old company; if it has not, then his rights as a member of the old company created by the 18th George II, remain unaffected. In either case the right to recover for surgical attendance must exist. The legal opinion errs, as we believe, in giving this privilege to members of the old Company only, and refusing it to members of the new College, as if any change in the *law* had actually taken place, and as if the College of Surgeons had consented to lay aside its ancient privileges in accepting a new Charter.*

Let us suppose that in this case the "repudiating" patient had brought an action for malapraxis against Messrs. W. and S., and it were proved that there had been gross negligence and unskilfulness in the treatment. They would have been liable to very heavy damages, because, *being licensed surgeons,* and having undertaken the charge of the patient, they had scandalously neglected him. According to the legal opinion here given, therefore, while the possession of the College diploma may render a man heavily responsible in pecuniary damages if he fail in attention, it will give him no

* One of the objections to the proposed new Medical Reform Bill was, that none but registered *general practitioners* should recover fees for medical and surgical advice. See MEDICAL GAZETTE, Vol. xli. page 474.

power to recover one farthing for his attendance if by skilful treatment he should restore the patient to health! We know that the English law is in many cases very oppressive to professional men, but we do not believe that it is chargeable with such gross injustice as is implied in this legal opinion. The examination by the present College, as well as that by the old Company of Surgeons, is a voluntary act; but he who can produce legal proof of having passed the examination, is in a condition to show that he is qualified to treat surgical cases, and in the event of payment being refused he can enforce his claim by an action of debt or for work and labour done. The case of the broker, quoted by Mr. Fellows, appears to us to be *nihil ad rem.* This man was *unlicensed*: he therefore could not prove his qualification to practise as a broker. The surgeons in this case are licensed as far as the law of England will permit them to be, and concerning their qualifications to practise surgery, there appears to be no dispute.

We have dealt with this question as it affects the profession generally: it is one which should not have been raised; but having been raised it should be freely discussed, and so settled that no repudiating patient may in future dispute the legal qualifications and privileges of a member of the Royal College of Surgeons of England. It brings to light a curious anomaly regarding the status of the College. In law it can be known only as the Old Company of George II.; for we presume a company created by Act of Parliament cannot dissolve itself, nor can the *legal* rights of those who belong to it be affected by charters obtained subsequently to the passing of the act of incorporation.

The Charters granted by George III. in 1800, and by Victoria in 1843, may authorize changes in the constitution of the College; but they cannot have the force of law, nor set aside the old Act of George II.; neither can they take away the legal privileges of its members. It is, therefore, desirable, as one hundred and five years have elapsed since its legal and independent foundation, that the College should obtain a new act defining the rights and privileges of its present members. Until this has been procured, the old Company of Surgeons of 1745 cannot be considered as *legally* dissolved.

THE deaths from cholera during the last week have again undergone a considerable decrease, and the diminution of the total deaths has been such that they were only 128 above the weekly autumnal average. The deaths from cholera were 288.

Under 15 yrs.	Between 15 and 60.	Above 60.
91	148	49

The average daily deaths from this disease were therefore for the week 41.

October 3.

	Deaths from cholera.	
In London and vicinity . .	38	
In England and Wales . .	305	
In Scotland	23	
		366

October 4.

In London and vicinity . .	42	
In England and Wales . .	293	
In Scotland	21	
		356

October 5.

In London and vicinity . .	35	

October 6.

In London and vicinity . .	44	
In England and Wales . .	387	
In Scotland	23	
		454

October 7.

(No return.)

October 8.

In London and vicinity . .	38	
In England and Wales . .	218	
In Scotland	32	
		288

October 9.	
In London and vicinity . .	14
In England and Wales . .	199
In Scotland	10
	223

ON THE CAUSES OF RETARDED MENSTRUATION. BY PROF. BEDFORD, U. S.

When the menstrual function does not appear at the ordinary period in the young girl, its absence may usually be ascribed to one of three causes: 1st, imperforate os tincæ; 2d, imperforate hymen; 3d, defective physical organization of the ovaries: or, in other words, a want of maturity in these bodies. The first two causes merit the gravest consideration of the practitioner, for they have, in eluding his vigilance, sometimes inflicted the severest wounds on character, and brought ruin on immaculate purity. If, however, the non-appearance of the function be due to defective organization, or want of maturity in the ovaries, this result is at once indicated by the general appearance of the girl. She is, in fact, but a child; her physical appearance presents nothing of that fulness, and has undergone none of those changes, so perfectly characteristic of the advent of menstruation, and so directly dependent on the maturity of the ovaries. In the absence, therefore, of these physical developments of the system, you may, in almost every case, impute them to tardiness on the part of nature in bringing these bodies to the usual state of maturity. If this reasoning be correct, the indication is obviously not to force nature by drugging the frail system of the girl, but to place the latter under all the influences which common sense tells us are the best calculated to aid in accomplishing the desired object. These influences will consist in improving the digestive functions, exercise in the open air, generous diet, cheerful company, &c. Why, let me ask, does the infant walk? Is it not that its organs of locomotion are sufficiently developed to sustain the weight of the body, and thus afford it the means of progression? What would you think of the physician who, in the absence of this development, should attempt to accomplish locomotion through the agency of medicine? And yet there would be nothing more absurd in such efforts than the attempt to induce menstruation before the ovaries have attained the necessary degree of maturity. This tardiness on the part of nature may be due to several causes: we know very well how remarkably the menstrual function is influenced by climate, race, education, mode of life, &c.; to these may be added, the influence of certain peculiarities of constitution. These latter demand the special attention of the practitioner.—*Boston Med. Journal*, 1849.

Reviews.

Letters on the Truths contained in Popular Superstitions, &c. By Herbert Mayo, M.D. Small 8vo. pp. 152. Frankfort: Sauerlaender. Edinburgh: Blackwood. 1849.

In this work Dr. H. Mayo professes to have explained by natural causes, and to have reduced from the mysterious dignity of supernatural events, to the unromantic reality of simple physiological facts, the following popular superstitions—viz. the divining rod, vampyrism, the belief in ghosts and dreams, second sight, supposed workings of the Holy Spirit on masses, possession by devils, and witchcraft. Although the transmutation is effected at the command of the physical truths expounded as the od force, the law of sensorial illusions, and the laws of trance, we cannot admit that they are brought so completely within the domain of inductive science as the author believes; and in this opinion we think our readers will concur, if they should feel disposed to consult the work itself after a perusal of the brief analysis which we propose to submit for their consideration.

The revelations of the Divining rod are here stripped of the charms of romance, and no longer will either the genius of Scott, or the simple faith of the Cornish miners, serve to invest them with other than scientific interest, if it be true that the supposed magical indication of veins of metal, or of springs of water, be nothing more or less than the manifestation, in certain persons, in certain localities, of the phenomena of the od force, or *vis innominata* as we have termed it,* and by which a rod held between the fingers, in a particular position, is made to perform peculiar movements Such is Dr. Mayo's exposition of the truth concealed in the superstition of the divining rod.

The superstitious belief in vampyrism, so awful in its meaning, and often so fatal in its effects, is resolved by Dr. H. Mayo into the several elements of dreams, second-

* See our review of Dr. Gregory's translation of Reichenbach's researches. Vol. ii. N.S. p. 911.

sight, trance, and premature interment. Of the last, the author gives the melancholy history of an entire series of instances. In connection with these he also treats at length of unreal ghosts, or the sensorial illusions of a disordered cerebral circulation, as illustrated by the phantoms of the well-known Nicolai, the visions and imaginary discourses of the fanatic Swedenborg, and the apparitions of the enthusiastic Joan of Arc.

The author next proceeds to the subject of real ghosts,—the spectres and visitations of the sleeping state,—and justly disposes of these and of their supposed fulfilments as mere coincidences "which are now and then likely to occur in the chapter of accidents, among the millions of dreams constantly occurring and forgotten."

Dr. H. Mayo is a believer in the possession of the faculty of second-sight by some individuals; and he instances Zschokke, among other examples which he has diligently collected.

In speaking of trance as an element vampyrism, the author takes occasion to propound as his theory of sleep, that it consists simply in the absence of the attention while all the other faculties are awake; but with some inconsistency he regards the state of somnambulism or sleep-walking as one "in which the attention is keenly awake." In the state of trance or catalepsy Dr. H. Mayo believes that new perceptive powers may arise, and that a complete transposition of the senses may occur, by which the sight being turned inwards the person may see and divulge the condition of his own internal organs (!) (the introvision of mesmerists), and, moreover, may know what is taking place in the minds of others. (! !) That the author herein exhibits great credulity we are inclined to think self-evident; more especially when he cites as instances of these new powers, the adolorata and the estatica, whose endowments Lord Shrewsbury has made notorious,—instances which from the circumstances attendant on their exhibition, we should be disposed to class in the same category of wonders with the Holy coat of Treves.

On a former occasion* we lamented the author's secession from the ranks of his profession for the advocacy of the empty claims of hydropathy; and it is with mingled regret and pity that we now receive Dr. H. Mayo's admission of the so-called *truths* (?) of mesmerism! These are here put before us in the usual forms — not as a popular superstition, but as elucidating the latter—prefaced by a historical sketch, in which it is with some surprise that we find the name of Franklin recorded as member of that celebrated French Commission which fully admitted its claims. It is notorious, (and this Dr. H. Mayo should have known or stated) that Franklin was debarred by illness from sharing in the deliberation of his colleagues. We are no less surprised to find the author commend the performances of Alexis and his brother to the study of those who would be wise on mesmeric clairvoyance! Surely Dr. Mayo cannot have forgotten that Dr. Forbes and Dr. Sharpey several years ago carefully scrutinized their performances, and satisfactorily demonstrated the only clairvoyance existing in their performances—viz. the clear view of their trickery.*

Although there is much in the style and in the contents of this volume to entertain as well as to interest a general reader, and it is not entirely devoid of instruction, yet so large a proportion consists of inferences from hearsay evidence and illogical deductions from assumed facts, that we cannot but feel a degree of doubt of the vigour of a mind once accustomed to the serious investigation of the sciences of physiology and pathology. In no other way can we explain that Dr. H. Mayo admits with easy credulity the loosest statements among the fundamental truths of science, and that he builds thereon theories, which, although they may bear the stamp of ingenuity, are deficient in those elements which can alone give them a trustworthy character. We cannot but lament that the author should be content to throw away a well-earned reputation by the advocacy of the claims of such things as mesmerism and hydropathy. "Are all (*his*) conquests, glories, triumphs, spoils, shrunk to this little measure?"

* Vol. i. N.S. p. 948.

* See the New Series of the MEDICAL GAZETTE, vol. i. pp. 486, 669.

We sat down to the perusal of this book with the anticipation of instruction; we lay it aside with disappointment and regret. Of the superstitions treated, some can scarcely be called extensively popular, while others are distinctly the gross delusions of limited numbers.

Somnolism and Psycheism, otherwise Vital Magnetism or Mesmerism, considered physiologically and philosophically. By Joseph W. Haddock, Surgeon-Apothecary. Small 8vo. pp. 73. London: J. S. Hodson. 1849.

The title of this work announces its object, and to a great extent also its character. Some further opinion of its scope may be gathered from the statement that it comprises "the substance of lectures delivered under the auspices of the Bolton Mechanics' Institution." The contents are: an historical sketch of mesmerism; an enumeration of its alleged phenomena, including sleep, coma, anæsthesia, phantasy, phreno-mesmerism, transfer of state and feeling, mental attraction, clairvoyance, or inner vision, or spiritual light.

Some among our readers may probably suppose themselves conversant with the present state of cerebral physiology. We can present them with another ingenious theory of the cause of sleep from the author's pages, to add to the number which they may have already met with:—

"In the *wakeful* state, these fibres" (the fibres of the brain originating in little globules or glands) "are *erect*, and, with their lobules or glands, point towards the circumference of the cranium, and there is a capability of moving them either singly or in greater or lesser groups; . . . . in the state of inactivity, or sleep, the fibres collapse or fall together. . . . . Another physical cause for the state of insensibility in sleep is, that, by the collapse or falling together of the fibres of the cerebrum, the blood is prevented from entering the finer channels of the brain, but courses along the pia mater. . . . This is occasioned by a law generally overlooked—namely, *that the brain has an automatic movement of its own*, synchronous, not with the action of the heart, but with the function of the lungs; and on this account the brain has the control of the blood circulating within its substance."

We presume that this extract will satisfy our readers as to the soundness of the author's physiology, and of his mode of reasoning. We think we may hazard the opinion that the cerebral condition above expounded exists only, like most of the "*facts*" (?) of mesmerism, in the imagination of the author.

Beyond this novelty the work contains little regarding mesmerism with which our readers are not familiar; while there is still less that they will be disposed to estimate very highly, although the author may have met with more facile judges in the audience of the theatre of a Mechanics' Institute. In the sentiments (p. 34) which would bring down St. Paul's sublime discourse on the future state of the soul (1 Cor. xv.) to the level of mesmeric mystification, we cannot participate, neither can we regard it otherwise than as a reprehensible misapplication of the sacred writings.

The Beauties of the Boyne, and its Tributary, the Blackwater. By William R. Wilde. 8vo. pp. 272. Dublin: M'Glashan. 1849.

Mr. Wilde informs us that the materials for this work have been collected during excursions which he has occasionally made to the Boyne for health, amusement, or instruction. Although there is nothing particularly of a medical character in the volume, yet as it proceeds from the pen of a well known medical author, and comprises subjects of physiological and ethnological, as well as of topographical and archæological interest, it deserves a passing notice in a medical journal.

In ten chapters Mr. Wilde contrives to introduce a large amount of matter which cannot fail to interest and instruct the modern traveller. It must not be supposed that we have here simply a guide-book on the usual itinerary principles; on the contrary, besides the description of places, many of which are well illustrated by neatly-executed wood engravings, the reader will find scraps of archæology, anecdotes, and sometimes lengthened and learned disquisitions on the ancient inhabitants of Ireland, with a description of their habits and customs. Those who are fond of searching into tumuli and barrows, and who can read an ex-

tinct nation's history in spear-heads, skulls, and coins, will find in Mr. Wilde's chapters a large store of information.

From an examination of the skulls and human remains turned up in different parts of the country, the author has arrived at the conclusion that Ancient Ireland was peopled by two separate races: "the earliest characrised by very long heads, and who were probably the *Firbolgs* or first colonizers; and the other by more globular and capacious skulls, and who, it would appear, were the *Tuatha de Danaan*, the conquerors of the former, and existed in the country prior to the Christian era, but that both races subsequently existed together, and probably amalgamated. Skulls exhibiting both characters may be observed among the present truly Irish inhabitants; but the more we approach the south and west, the more do the former predominate, both in the existing inhabitants, and in the crania found in ancient burial-places" (page 239.) Two of these peculiarly formed skulls, representing the conqueror and the conquered, are figured at page 40. That of the *Tuatha* reminds us of the Peruvian skulls to be seen in most museums. They were found with the remains of ancient weapons at Kinnafad on the banks of the Boyne. The Firbolg skull is quite perfect, and has a sword cut on the crown, traversing the coronal and sagittal sutures: thus giving evidence of a wound inflicted some three thousand years ago! The author asks, is it unnatural to suppose that the people to whom these skulls belonged, fought with the weapons by which their remains were found surrounded? We say no,—but, as in the sculptured marbles of Nineveh, which depict the slaughter of one race of men by another, the admission involves a sad reflection. The occupation of men living in this poetical age appears to have consisted throughout the world in waging war against each other, and in improving instruments of slaughter. The bow of the Nineveh archer is drawn against his fellow-man, and the rude outline preserved on a selenitic slab through forty centuries, like the sword-cut on the Firbolg skull, bears witness to the destructive propensities of the human race in the remotest periods of history.

The origin of the early people of Erin is lost in the darkness of ages. Some assert that they were a Gothic, others that they were a Celtic colony. But what do we understand by "Celts" or a "Celtic colony?" It is a very common form of expression, but no one can give a satisfactory explanation of what is intended by the use of it. Our author makes some well-observed strictures (p. 217) on the antiquarian pedantry which is now in vogue among certain archæologists. The whole of his remarks upon the ethnology of the Irish are well worthy of perusal.

As an instance of the superstitious usages of the Irish peasantry, Mr. Wilde mentions, in speaking of Carrick, that "Not long ago people were in the habit of carrying away from hence portions of the clay of a priest's grave, and using it as a cure for several diseases,"—a practice formerly in much repute in the west of Ireland, and frequently resorted to at the present time. He states that he has "known persons in a respectable rank of life to boil the clay taken from the grave of Father O'Connor in the Abbey of Roscommon, upon milk, and drink it for the cure of several diseases; and an account has been given by Dr. Pickells, of Cork, of a female who it was said became seriously diseased from having swallowed the larvæ of beetles and other insects, in making use of a similar remedy!" (p. 45.)

We take leave of this interesting guide-book with the persuasion that it will prove of the greatest value to all who seek the banks of the Boyne for health or recreation.

Healthy Homes: a Guide to the Proper Regulation of Buildings, Streets, Drains, and Sewers. By William Hosking, Civil Engineer. 8vo. pp. 295. London: Murray. 1849.

This volume is most welcome at the present time, when public attention is so strongly directed to the improvement of our systems of drainage and ventilation in towns. It is evidently the work of a practical man, and not of an amateur in sanitary matters. Among numerous subjects, which concern chiefly the architect, Mr. Hosking gives us ample information on the safe structure of buildings,—on their se-

curity against fire, and on *Drainage* and *Ventilation*. We have read these chapters with great interest and instruction. They convey numerous hints of practical value to every occupier of a house, and are of especial interest to those medical men who have taken a part in the sanitary movement, and who are likely to be called upon to give an opinion regarding the best means of draining and ventilating the abodes of the poor.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, September 24, 1849.

The Society held the first meeting of this, its seventy-eighth session, this evening. In the absence of the President, Mr. Hancock, Mr. Hird presided.

Lemon-juice and Acetate of Potash in Rheumatism.

Dr. Theophilus Thompson, in reference to a discussion at the last meeting of the Society, in which it was stated that lemon-juice and acetate of potash were identical in their mode of action in rheumatism, related the case of a gentleman who, whilst taking acetate of potash for effusion into the pericardium consequent upon pericarditis, was seized with articular rheumatism; this increased in severity so long as the medicine was continued. The urine contained a large quantity of lithates; the heart symptoms abated. Lemon-juice was substituted for the potash, and in a few hours all the rheumatic symptoms had disappeared, the urine having become copious and clear. The case illustrated the fallacy of founding a theory on a few cases.

In the discussion which followed, Dr. Thompson stated that he should trust to lemon-juice only in such cases where the constitution would not bear stronger remedies.

Rheumatic Disease of the Ear.

Mr. Harvey said that his attention was first directed to this subject by observing the effect of rheumatic inflammation on the tissue of the eye, and from noticing, in many cases of ear disease that came under his care, the presence of articular rheumatism, which influenced, either directly or indirectly, the disease of the ear, the relief of one, for instance, being followed immediately by aggravation of the other. Believing, from observation, that many such cases were made worse, and even irremediable, by mistaking the cause of the disease, and by the application of stimulating remedies, he determined on investigating the subject. The result has been, that in a great number of cases he has been able to trace the connexion of the ear affection with rheumatism of the system generally. In the eye, the secondary attack has been usually found to come on after the system has been well saturated by the poison of the disease; but the ear may become affected early, the parts first implicated, as in the eye, being the fibrous tissues, and subsequently, the nervous expansions. The disease exhibited itself under two forms—the acute or destructive, and the chronic or insidious; both, when neglected, tended to impair the sense of hearing; and the former led to the entire destruction of the organ. The acute form generally attacked males, and was connected with articular rheumatism; the chronic was more frequent in females, and was associated with rheumatism of the muscular system. The symptoms of the acute form of the disease, to which the paper was restricted, are, that the attacks are paroxysmal, usually following a seizure of articular rheumatism, tinnitus aurium, resembling the pumping of steam-engine or forge-bellows, and generally a benumbed sensation over the temporal and mastoid regions. This was the part chiefly implicated in the disease, which, if not speedily relieved, ended in exfoliation of the bone. Some cases were detailed by Mr. Harvey; in one, the patient was a strong, robust man, in whom the attack supervened on a severe rheumatic affection of the joint, which had been treated actively. On the entire subsidence of the joint affection the left ear became the subject of severe pain; there was a benumbed sensation over the temporal and mastoid processes, accompanied with a heavy, deep tinnitus. There was considerable tenderness over that portion of the head. The meatus was much swollen, in consequence of the application of hot and stimulating remedies. He had difficulty in swallowing; the left tonsil was much enlarged. He was cupped and leeched over the mastoid process, and placed under the influence of mercury with colchicum. This was pursued for ten days; the tympanum could now be seen; it was of a brownish-red colour, and had lost its transparency. The pain had diminished in intensity, but the tinnitus continued; he had occasional flying pains about the joints. Pain and tenderness continued over the mastoid process, and though no fluctuation could be detected, an incision was made over the part down to the bone. Relief followed; he slept better. Colchicum, with quinine, was given, and the patient recovered, though for twelve months

his hearing was somewhat affected. The second case was of a similar character, but owing to the obstinacy of the patient, who refused to allow of any incision being made over the mastoid process, the structure of the ear was destroyed, and the bone exfoliated, notwithstanding active and judicious means were used to prevent it. The third case was one associated with cardiac inflammation, which ended fatally; the disease of the ear under the treatment pursued in the first case was little benefited.

In concluding his paper, the author laid great stress on the necessity of the incision over the seat of pain, and considers that in the second case, that proceeding, if adopted, would have been as beneficial as in the first. In reference to the action of colchicum he says—"It appears to me that colchicum may act chemically by producing some change in the urinary and alvine secretions, both of which it tends to increase in quantity and alter in quality; and secondly, it acts particularly upon the nervous system. If given in large doses, it should be carefully watched as to its effects. It should not be given in a weakened constitution without either a tonic or an opiate, and it is better to have the bowels freely acted upon at first. I have found it extremely beneficial to continue its use internally for a lengthened period, in small and repeated doses, in chronic affections of the ear presumed to have arisen from rheumatism. I have found it by no means beneficial when it produces nausea, vomiting, or purging, and more particularly beneficial when the skin secretes freely: the preparations I place most dependence upon are the wine of the seeds internally, and the acetous extract, combined with spermaceti, as an external application." The wine of colchicum was usually administered in a bitter infusion at first in doses of five or six drops, and in chronic cases the remedy was continued for a long period. In acute cases half a grain of the acetous extract, with two grains of calomel, was given three times a day, until ptyalism was produced.

Dr. Crisp suggested that incisions similar to those employed by Mr. Harvey in the cases detailed might be attended with benefit in cases of ear disease supervening on scarlet fever, in which the symptoms resembled those described in the paper.

Dr. Copland said Mr. Harvey had fully proved his case. He (Dr. Copland) had seen cases in which the ear had suffered from acute rheumatism, so that the patient could not rest upon his pillow: this attack had supervened on rheumatism of the face and head. The patient was treated by alkalies, sarsaparilla, and iodide of potassium, and did well; no deafness remained. He knew the case of a lady who had been the subject of a more chronic form of the disease, and in whom the ear attacks alternated with the joint-affection. She was now deaf. The cases were not uncommon. He made some remarks on the mode of administering colchicum employed by Mr. Harvey, which he considered judicious. Some could scarcely bear any dose of colchicum, and it was better to begin with a small dose, combined with an alkali or a bitter, quinine or camphor. The bowels should be first purged.

In reply, Mr. Harvey said that he believed with Dr. Crisp that incision in otitis, primary or secondary, would be beneficial, and in many cases save exfoliation of the bone.

Influence of Colchicum on Longevity.

Some remarks were made on this subject by several speakers, Dr. Crisp, Mr. Hunt, Mr. Robarts, and Dr. Copland. It was admitted on all hands, that whilst colchicum, in proper doses, when administered with care, and under the watchful eye of a medical man, was a valuable remedy, and not only relieved disease, but in reality prolonged life; that its injudicious employment, its too long continuance and frequent use, its employment in constitutions unsuited to it, and particularly as it was recommended in some of the quack nostrums, was not only injurious, but destructive of life.

Correspondence.

PLAN FOR THE EXTINCTION OF THE CHOLERA.

Sir,—The host of theories of, and the multitude of remedies for, the cholera, present the front of a daily augmenting legion, and even now we are perhaps as remote from the truth as when the disease was first made known in Great Britain. Some few facts have been gleaned, undoubtedly, as regards the peculiar localities which this formidable pestilence affects, and the habits of persons most likely to become its victims; but further we know comparatively little, and the disease is justly held from its great fatality as the modern plague. In the plan we embrace the present opportunity of submitting to the profession and the public, we profess to have made no special discovery; we only apply and extend the knowledge of certain facts, generally accredited, and patent to every one; and if these facts be true facts, then we judge that we have means perfectly at our command to destroy the fated pestilence of the cholera.

It is unnecessary, with the object we have in view, to inquire into the intrinsic nature

of that malady—whether it be aerial or terrestrial, organic, or otherwise, it matters little; this, however, being allowed, that there seems some most peculiar feature of attraction in it for low swampy districts in which the drainage and sewerage are extremely defective. So far as the experience of the present visitation holds true here, and in all other parts of the united kingdom, there seems to be but one opinion on that subject, however varied the theories may be entertained regarding the proximate cause of the disease, or however discordant may be the endless and opposing host of remedies proposed to afford relief, or happily to effect a cure. Filth and the cholera are twin sisters, always simultaneously associated. Where the one is, there the other is invariably encountered. Where the carrion is, thither the ravens congregate; and so it is where cesspools are stagnant and steaming with the putrid excreta of months and even years, and sewerage so bad; there the cholera is to be seen rifest, and there it luxuriates in all its strength and vigour, sweeping off its victims with appalling rapidity, and leaving desolation in our streets.

It is sufficiently notorious that the most foul and most offensive odours speedily yield to the action of the gaseous body chlorine (perhaps, with the exception of oxygen, the most energetic element we know). The action of this substance has never failed to destroy putrid effluvia, as the most ample experience in all climates has most explicitly demonstrated. Sulphuretted hydrogen gas, which every one knows is the most abundant and most offensive product resulting from the decomposition of animal matter, exposed to the action of this gas is immediately decomposed, and a comparatively innocuous matter remains. Wherever animal debris and excreta accumulate together, they necessarily and naturally undergo decomposition, the rapidity of which depends on a variety of contingent circumstances. The mode in which they contaminate the atmosphere it is not requisite that we should detail at length here; suffice it to remark, that they do so both positively and negatively: positively, inasmuch as they introduce elements into it, which are distinctly deleterious and injurious to the animal economy; and negatively, in so far as, commensurate with the bulk they occupy, *pro tanto* they only allow a diminished supply of the pure vital air. We might subjoin, thirdly, that independent of the latter of the two causes, which naturally must enfeeble the powers of the system, the other may also co-operate in impairing its vital energies, without in any degree themselves being productive of positive fatal disorders, or absolute diseased states, which debility of the body cannot co-exist without rendering the body more susceptible of the assault of a new poison.

The connexion or strong attraction of the cholera poison for these fomites—to wit, decomposing animal matters—being then admitted, it is apparent that if we can successfully destroy the latter, the empire of the cholera must simultaneously be broken up. Putrid miasmata would appear to act the same part in reference to the cholera poison that certain kinds of clothing and garments act as regards the plague and other infectious disorders,—that we can destroy these emanations of the putrid decomposing animal substances, or certainly at least suspend their noxious action, there can be no doubt. Why not, then, have an atmosphere of chlorine immediately streaming over all the infected districts? Chlorine is incompatible with all putrid emanations—its chemical agency is immediately subversive of their existence. The cholera localities (and in not a few instances they are very narrowly circumscribed and defined) can easily be flooded with the chlorine gas. A stratum of that element two or three inches in depth might be quite adequate for the purpose, and the whole surface level should be exposed to its action for twelve or twenty-four hours, so that every corner and cranny might be searched out most satisfactorily and completely by this most energetic gas. Chlorine being considerably heavier than atmospheric air, is peculiarly adapted for the purpose contemplated; and we submit that until a fair and uncompromising trial be made of this principle, we have no reason to repine at the inefficiency of art, nor to stand aghast in stolid actionless amazement at the power of the destroyer.

N.B.—As the chlorine gas, in its pure state, acts with extreme virulence on the animal tissues, the inmates of the infected districts will necessarily require to withdraw from their dwellings while the process of fumigation or purgation of the infected atmosphere is carried on by means of functionaries appointed specially for the purpose. Numerous experiments have demonstrated to us that an atmosphere impregnated with a certain amount of chlorine can be respired with impunity; but it is obvious from the comparatively thin stratum of the chlorine atmosphere required, there cannot be any great degree of diffusion taking place. The moisture of the surface level will counteract that in a great measure, and the play of affinities between the gas and the multiplied compounds of organic decomposition will further contribute to the same.

The generation and diffusion of the gas over the infected districts may be accomplished in various modes. These it is not our object here to consider. It may suffice

to remark that chlorine displays some very singular adaptations to the end in view, as in the great amount of it retained in lime, and gradually eliminated on exposure to the air.

The agency of chlorine has not, we conceive, been fully investigated, in relation to the disinfecting powers. It is obvious enough that absence of odour is no proof of absence of contagion or poisonous emanations, as was once fancied during the period of the *sudor anglicus*, and even more recently. We have always been further inclined to the belief that a positive *tonic* or *anti-clorinic* action (as the Grcek myth coinage is in high repute at present) was exerted by the gas chlorine totally irrespective of its specific agency in annulling the poisonous influences of the pestilential emanations, whatever may have been their nature. But let us return to our proposition.

If the statement, then, be correct that the effluvia of cesspools and other sources of decomposing animal matters have the closest connexion with the cholera poison, and if the other proposition be also a legitimate induction (for the voice of all scientific men is as one on this subject) that chlorine does decompose and destroy all the noisome emanations resulting from the putrefactive process, I judge defcrentially that we may be allowed legitimately under the circumstances above stated, that by the mode proposed we may destroy as efficiently the pest of the cholera as flame is extinguished by water.

On another occasion we may advert to the chemical theory of substitutions, which undoubtedly plays a most important part in this momentous question. At present we are merely practical, and in strong hopes that our views admit of efficient practical application.

The expcriment proposed is simple—it is also cheap—it is unattended with any risk, provided it be superintended and directed by a professional person. Should the means suggested succeed, they will afford a beautiful illustration of the adaptation of the relations of the simple and compound elements to each other, and they will present a satisfactory proof that in contending with the elements, man has but to show an unretiring front, and they finally yield submissive to his control.

I am, sir,

Your obedient servant,

W. Reid, M.D.

Sept. 30, 1849.

SUGGESTIONS ON THE INVESTIGATION OF CHOLERA, AND ON ITS TREATMENT.

Sir,—It must be a matter of congratulation to all who arc professionally interested in the subject, to see by the articles in your number of September 1st that a move has at length been made in the right direction in the investigation of that first and chief of the opprorbia medicinæ (I fear in public as well as in professional estimation), the treatment of the prevailing epidemic; and it must be equally so to find that that move has been madc by the body who ought properly to take the initiative in the matter,—the London College of Physicians.

There is, perhaps, no subject in the modern literature of medicine on which so many crude theories, absurd speculations, and false and imperfect facts, have been brought forward as on cholera, or on which so much has been said and written, and to so little purpose; and certainly none in which experiments on the action of remedies have, with few exceptions, been so unsatisfactory and inconclusive: so many and such contradictory agents having been used at the same time as must not only have materially influenced the results, but have rendered it extremely difficult to draw any conclusions from them; and the obvious bias and incompetence of the observers having, it is to be feared, in many instances made it still more so.

It is therefore gratifying to find that (though, it is to be hoped, at the eleventh hour) there is at length a prospect of something like a systematic inquiry being adopted; and it werc to be wished that other public bodies who have the means of doing so may follow the example which the College has set them, and that they will, by experiments well reasoned, well directed, uncomplicated by any treatment except what experience has shown to be in all cases neccssary and proper, and performed by competent observers, attain something like satisfactory and useful results. If the members of the South London Medical Society, for instance, whose sayings and doings* lately enlightened the public by an exhibition of the proverbial differences of "Doctors," were each, individually, to investigate the action of some special remedy for the disease, it would do more to advance our knowledge of its treatment than all the discussions which can be made upon it.

It is to be feared that the additional experience which the present visitation of the disease has afforded has added but little to our therapeutic resources for its treatment. Although the preventive and early treatment may be better understood, and although we may have ascertained a few such facts as

* Is not the publication of these in *public* and non-medical journals a matter of very questionable taste and propriety? and would it not be well in reference to it to remember that "results and not processes" are for the public eye, and that "*facts*," and not "*opinions*," are what are wanted?

that the abuse of opium in the first stage increases the tendency to collapse, and that of stimulants in the latter, the secondary fever; and though the treatment may be less violent and indiscriminating than formerly, still it is to be feared that it is often too much so, and that there is frequently no other relation between the disease and the remedy than that the one is violent because the other is violent; and that the caution which our ignorance of the disease ought to suggest is still too little observed. The great difficulty, the treatment of the stage of collapse, remains untouched, or if any advance have been made with regard to it, it has been on the negative side, teaching us rather what is useless than what is beneficial. It is obvious that there is only one means of extending our knowledge with respect to the latter, viz. well-directed experiment: and as it is impossible to adopt this in private practice, it is incumbent on those who have for this object the opportunities, resources, and freedom from superflous responsibility which hospitals afford, to avail themselves of them. The extensive prevalence of the disease in London, and the facilities afforded by its public institutions for its treatment, afford an excellent opportunity to those "*London*" practitioners who already enjoy so large a share of public confidence of acquiring increased estimation by extending our remedial resources for it.

If not trespassing too much on your space, perhaps you will allow me to make a few remarks on the disease itself: and first, with respect to the state of collapse; is it when fully formed *essentially* incurable, or is it not? That this question is to be answered in the negative, viz. that it is not essentially incurable, must be admitted when we consider the fact that patients have recovered from the most extreme state of collapse, even where animation has been actually suspended, and that too where they have been left for dead, or even carried out for interment, and it is to be feared, in some instances, even afterwards; for, making every allowance for fiction and exaggeration with regard to these latter, and also assuming that some of them may have been cases of narcotism or intoxication, still sufficient evidence would remain to show that recovery may take place under circumstances apparently the most hopeless. If this be admitted, the question comes to be simply one of treatment, and as such involves two points of inquiry: first, to investigate the effects of known alleged remedies, to distinguish those which are beneficial from those which are injurious, and to determine the circumstances and modes of administration in which the former are respectively proper and improper; and secondly, by accurate and well adapted experiment to endeavour to discover new remedial resources of greater efficacy than those which we possess. As you well suggest, it is not likely that a "cure" or a specific will be found for the disease, and we have therefore to look, not for an elixir vitæ, but for a method of treatment suited to its actual pathological conditions, and to a careful and discriminating application of it to the symptoms and circumstances of individual cases. Of course, in this, as in every other disease, there must be a "ne plus ultra," a point beyond which recovery becomes impossible; but I think it is evident that we are far from having attained that point in our treatment, and that a much greater number of cases admit of cure than that in which it has hitherto been effected. It must not be forgotten that the way to make a case incurable is to think it so.

With respect to the results of the calomel treatment, as applied to this stage of the disease, I fear that, if impartially observed and candidly stated, they would be found to bear out the opinion so ably expressed by Dr. Hughes respecting them. However beneficial mercurials may be in some states of the disease, it is difficult to see in what way they are adapted to this, whatever may be said as to "the restoration of the secretions," even supposing them to be not positively injurious. The salivation and other severe after-effects resulting from their use, may, as observed by Dr. Hall, in his paper copied into your last number, be "a matter of little moment when the question involved is one of life or death," provided it were certain that this question depended on the remedy, and the good effects of the latter were as certain as the bad,—a point which he does not by any means satisfactorily prove, as some of his cases get "well" and then die; and there is nothing to show that the others would not have done as well without the calomel as with it.

It is amusing to see it gravely asserted that the diarrhœa and vomiting are to be treated as "salutary efforts," and that, too, in the face of such well-ascertained facts as that the arrest of the former in its early stage is the most important point in the treatment of the disease; and that the great majority of cases in which this is effected go no farther, while, if neglected, the other stages of the disease usually supervene;—considerations which show, also, whatever might be said to the contrary, that they are mainly instrumental in their production, though doubtless the stage of collapse may, and in rare instances does, from the intensity of the morbid impression on the general system, take place without them.

Whether the discoveries of Mr. Brittan will, if verified, prove to be effects or causes;

whether they will lead to any improvements in treatment, or whether, like that of the "*aphis vastator*," in the potato epidemic, they will leave our practical knowledge of the subject *in statu quo*, are questions which will no doubt be speedily decided by experience. At all events they will be a new fact, and as such a step forward in the path of discovery, and one for which its authors will deserve much credit.

In conclusion, let it be hoped that we may hear no more of "wonderful cases" and "certain cures," at all events from professional sources, in reference to the treatment of this disease; but that it may henceforth be investigated in that spirit of accurate observation, cautious induction, and philosophical scepticism, which its importance and difficulty demand.—I am, sir,

Your obedient servant,

A Provincial Physician.

Sept. 28, 1849.

GOOD EFFECTS OF THE LIQUOR CHLORINII IN CHOLERA.

Sir,—As you kindly inserted a note of mine in your number for Sept. 21st, advocating the use of liquor chlorinii in cholera, perhaps you will also find room in your journal for a sketch of two cases, selected from very many in which it has proved eminently successful. I am glad to find that the investigations of Dr. W. Budd, published subsequently to my first trial of the remedy, seem to prove chlorine to be theoretically as well as practically the best mode of treating this formidable disease.

W. M., a coal-heaver, age 48, was attacked on September 19th, at 10 P.M., with symptoms of cholera, which gradually increased in severity, resisting all the remedies employed, until 2 o'clock A.M., when I was called in. I found the patient rapidly approaching the state of collapse. Pulse scarcely perceptible; blueness of extremities; cold tongue; rice-water evacuations, and incessant vomiting, with very severe cramps. The first dose of Liq. Chlorinii (℥ij. ex aqua) stopped the vomiting, and the medicine being continued in doses of ℥ss. every hour, had the effect of relieving all the symptoms in about four hours. This patient continued to improve, though for a few days he was liable to a slight return of sickness and diarrhœa, which in every instance was immediately checked by a full dose of the chlorine. He is now merely taking a little tonic mixture to recover his strength, which has been very severely tried. In the following case the effect was still more striking:—

Sept. 29, at 11½ A.M., I was called to a poor girl, living in a most wretched house, where I had already attended several cases of cholera.

I found her with every symptom of cholera in its most aggravated form, the cramps being more severe than I ever saw before; no pulse; blue skin; urine suppressed; tongue quite cold; and vomiting and purging without any remission. I gave Liq. Chlorinii ℥iij. ex aqua, and repeated the dose in five minutes, and again in ten minutes, with marked benefit. I then ordered ℳxl. every quarter of an hour, and from that time the symptoms gradually subsided, although three times in the course of the day I found it necessary to repeat the full dose of ℥iij. In two days she was perfectly convalescent.

In the above cases, as well as in many others which have been under my care, the only other remedial measure has been the application of mustard cataplasms to the calves of the legs and the cardiac region.

Your obedient servant,

C. W. Mann, M.R.C.S.E. &c.
Medical Officer to the Northern District of Clerkenwell.

2, Myddelton Square,
Oct. 3, 1849.

DETECTION OF CARBONATE OF AMMONIA IN THE EVACUATIONS OF CHOLERA.

Sir,—Now that the cholera, that most fearful scourge, is amongst us, removing daily many hundreds of our fellow creatures, and leaving sad memorials of its virulence in almost every city and hamlet in the kingdom; whilst both physicians and philosophers are confounded by the rapidity of its action, and the extraordinary character of its symptoms, every new fact that would in any way tend to throw a light upon its nature, or explain the cause of its occurrence, must necessarily prove interesting to the minds of the public. From its first appearance in this locality up to the present time I have been continually engaged, in conjunction with my father, Mr. William Herapath, in submitting the subject to a close investigation, both chemically and microscopically, with the view, if possible, of determining these points. Although we have not as yet been able to arrive at any definite conclusions, still some of our results are, in my opinion, of sufficient importance to merit publicity. By examining different specimens of venous blood, in cases of cholera, I have been enabled to verify the statement of M. Simon, with regard to the presence of a greatly abnormal proportion of urea and uric acid in that fluid; and by further continuing my experiments, I have discovered the constant occurrence of carbonate of ammonia in all the excretions—in the fæces, the perspiration, and the breath, and likewise in the atmosphere of cholera hospitals, and in that of the chambers where persons who had been attacked with this disorder were lying.

These results, I need hardly say, are most remarkable, and possess the highest importance, as they would appear to prove that the principal effect of the choleraic virus, or whatever it may be, is to produce a total or partial suspension of the renal functions, thus causing an entire alteration in the circulating system, by the non-excretion of the urea. This substance, which would naturally be thrown off from the body in the urine unaltered, in the case of patients suffering from cholera, the secretion of that fluid being stopped, remains in the blood, and undergoing decomposition during the act of respiration, or the passage of the blood through the vessels, is eliminated by the intestines, lungs, and skin, in the form of carbonate of ammonia.

It would be absurd in the present state of our knowledge, or reasoning merely from the comparatively small number of observations that we have been capable of making, to attempt to theorize upon the origin of this epidemic, or to give our opinions relative to the cause or causes which produce the phenomena we have noticed. We wish it to be distinctly understood, therefore, that the above are only stated as curious facts, which future experiments may or may not corroborate, but to which we think that the attention of our fellow-labourers in this department of science ought to be particularly directed.

It will now be necessary for us to determine whether carbonate of ammonia is invariably present in these excretions, &c.; and this is obviously a work of great labour, and can only be accomplished by the persevering co-operation of many chemists. Should, however, such be found to be the case, and I have little or no doubt that it will be so, I think the veil will at last have been lifted which has so long concealed the origin, or at least the *modus operandi*, of this most fatal and horrible distemper, and consequently that its cure may then be considered to be within the range of probability. In the meanwhile it is my intention to continue my own researches, with the hope of arriving at so desirable an issue.

As to the results of our other experiments, we have not as yet had the necessary time or opportunity to reduce them to a fit state for publication: we hope, however, to be enabled to do so in the course of a few weeks, when, should you be inclined to grant them insertion in your excellent journal, we shall feel great pleasure in laying them before your readers, together with all particulars with regard to our mode of procedure, &c.

Your obedient servant,

THORNTON J. HERAPATH.

Mansion House, Old Park,
Bristol, Oct 2d, 1849.

*** We shall have great pleasure in publishing the further results on this interesting subject, obtained by Mr. Herapath. It is desirable that the presence or absence of carbonate of ammonia in the evacuations which attend other diseases should be determined.

PHYSIOLOGICAL RESEARCHES ON THE BLOOD. BY JAMES NEWTON HEALE, LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS, F.R.C.S.

SIR,—At a time when a formidable epidemic has so recently raged almost unchecked, it is proper to lay aside the reserve and hesitation which otherwise would be both becoming and desirable, and at once to bring before the medical public the results of investigations and observations which have any possible relevance to that malady or its causes, without waiting until by more elaborate research the various phenomena could be more perfectly verified, and more extensively carried out to their legitimate conclusions and consequences. I have made numerous experiments upon the blood as it circulates in the living body, and I think that circumstances will bespeak some attention to the physiological suggestions which I venture to make; since all intelligent practitioners, I think, are agreed that to that source must they look for the solution of the mysteries connected with cholera. I have found moreover that private resources are too limited to enable any individual to do justice to an investigation, each experiment of which requires the conjoined efforts and zealous co-operation of several skilful and philosophical assistants: one who has generously lent me such assistance I have have found in that distinguished anatomist, Mr. Lane.

When the point of a wire of the finest gold, of platinum, or of copper, is inserted through the coats of an artery, so as to come into contact with the blood of a living animal, and the point of another wire of the same metal is introduced in a similar manner into a corresponding vein of the same animal, and the two free ends of the wires are brought into communication with a delicate galvanometer, the needle will be instantly deflected, and if the ends of the wires which communicate with the galvanometer be crossed, so as to reverse the direction of the current, the needle will then be thrown round as forcibly in the opposite direction; and this can be repeated as often as necessary. The direction which the needle takes decisively indicates a galvanic current passing in the direction of the current of the blood; that is, supposing it to be generated in the lungs, but of course the converse if it be generated in the oppo-

site capillaries: that is to say, that if the wires passing through the galvanometer supply the place of the conductors formed by the systemic capillaries, then the galvanic current is in the direction of the current of the blood; but if the galvanic current is generated in those capillaries, and the wires supply the circuit which else would be formed by the capillaries of the lungs, then the galvanic current is opposite to that of the current of the blood: the word current is obviously used here in two different meanings, each of which will be intelligible.

If the animal be brought so much under the influence of chloroform, which has been used in all the cases to avoid cruelty, that death is on the point of occurring, the galvanic current ceases; if the animal recovers, in proportion to its recovery the galvanic current becomes again powerful; if the animal dies, in proportion as the blood coagulates so does a galvanic current become again manifest, but it is in this case in the reverse direction to the former. These experiments have been so numerous, that the possibility of mistake is, I believe, quite precluded. The existence of the galvanic current has been confirmed by Snow Harris's air thermometer, though this is obviously an unfavourable experiment, since only a portion of the electricity can be diverted through the wires from its natural course, the blood forming so excellent a conductor, and Snow Harris's thermometer offering a considerable resistance to the current: nevertheless the coloured liquid rises 4° in the experiment. The animals operated on were donkeys, goats, dogs, and rabbits. The electricity could not result from the action of the blood on the wires, since with the purest gold the results are most unequivocal, and platinum and copper are also affected in like manner, the difference of degree between these two depending evidently only on the greater power of conduction of the latter. If a wire be inserted into the external jugular vein of a donkey, and another into the carotid artery of the same animal, the sterno-mastoid muscle which intervenes must be forcibly drawn aside by an assistant in order to reach the artery: this will cause it to contract strongly, and while this happens the needle will continue to oscillate in jerks; but if the muscle be divided across, instantly the needle goes round suddenly, and becomes stationary at an arc of at least 30° to 40°, shewing that in the former case the contraction of the muscle tended to discharge the electricity as fast as it was generated. In performing these experiments it is immaterial which two bloodvessels are selected, their communication by the capillaries of the lungs is all that is requisite, the remainder of the circuit is completed through the galvanometer: the aorta and vena cava, the right and left ventricles, and the right and left auricles, the femoral artery and vein, all answer as well as those which were usually selected on account of convenience, viz. the carotid artery and internal jugular vein. If the wires were inserted into two parts of the peritoneum or of the abdominal viscera, very energetic currents were always indicated so long as any vitality remained: the direction in which the needle was deflected being sometimes in one direction and sometimes the reverse; and the reason of this is evident, since it is almost impossible to insert the wires into any two parts of the abdominal cavity without including a portion of the circuit; though whether one wire or the other was most in contact with the venous or arterial system—in other words, was positive or negative—must have been a matter of accident. The experiment may also be made in a very striking manner on blood after it has been drawn from the body. Let arterial blood be drawn into one cup and venous blood into another, let a short conductor of some metal, as gold, platinum, or copper, be so placed as to dip into each kind of blood, or, what answers admirably, let a strip of muscle be made to dip by its two ends into each cup; (the animal from which this conductor is taken should have been dead a day or two, otherwise the fresh muscle is apt to generate currents of its own which interfere in some degree with the experiment); or else let the arterial blood be drawn into a porous earthenware cup, and this cup plunged into the venous blood; it matters not much how the connection of two cups is made, so that they are freely connected. All the foregoing methods have been tried with uniformly successful results. Then let a conductor dip into each cup, and by means of wires let a circuit be made through the galvanometer, instantly a galvanic current will be manifested, which will continue so long as the blood is coagulating; but in this case it will be the reverse to the *former*.

From these experiments I consider I am justified in drawing the following conclusions:—

1st. There is a galvanic current generated in the capillaries of the lungs by the action of the oxygen of the air. (It is not unlikely that water is decomposed, the hydrogen being determined to the arterial plate while the oxygen acts as an acid upon the venous plate; *i. e.* the minute ramifications of the pulmonary artery forming the venous plate, and the commencement of the pulmonary veins forming the arterial plate, the intermediate colourless capillaries forming the electrolyte).

2nd. That the blood itself forms the medium through which the circuit is com-

pleted, and the coats of the vessels form the insulating medium; that they are for the most part placed side by side, in order that the tension of the electricity may never exceed the insulating power of the coats of the bloodvessels.

3rdly. That the circuits by which the galvanic current so generated are completed are of four kinds. 1st. The general capillaries of the system, by which the growth, nutrition, muscular action, and perspiration are supplied. 2nd. The system leaving the aorta by the cæliac axis, and the superior and inferior mesenteric arteries passing through a system of capillaries in which electrolysis is carried on, carbonaceous and saline secretions being the result, then forming the vena portæ, which divides again into a system of capillaries in which electrolysis exactly equivalent to the former is effected, again carbonaceous and saline products being formed, viz. the bile, and completing the circuit by joining the ascending vena cava by means of the venæ cavæ hepaticæ. This system appears to be insulated by the peritoneum. 3dly. There is the renal system, the circuit of which is formed by the renal artery, the renal capillaries in which the electrolysis by which the urea, &c. is eliminated, is maintained, and the renal vein joining the venous general conductor. This system appears to be insulated by the fibrous coat of the kidneys. 4thly. There is the spermatic circuit, which is too obvious to require to be dwelt upon. The two sides of the heart are common to all these circuits, the left side being accessory to the arterial conductor, and the right side of the heart to the venous conductor. (The pleura is in all probability the insulating medium of the lungs, and not improbably serous inflammations depend upon nothing more nor less than an interference of some causes with the insulating properties of the two surfaces; most certainly the investing and reflex surfaces of serous membranes usually are in different electric conditions.)

4thly. That muscular action depends upon galvanic discharges through or across the muscular fibre, and the repeated subdivisions and anastomoses of the arteries serve to enlarge the surface from which this discharge takes place; while the plexuses of veins are in the muscles arranged conveniently for this operation: while in the brain, and other parts where no muscles are placed, a different arrangement prevails; and it seems not too much to infer that the action of the heart itself is caused by the periodical charge of the ramifications of the coronary arteries with electricity by means of respiration, and the discharge of the same through the muscular structure to the coronary veins.

5thly. That any cause deranging any one of the four circuits capable of augmenting or diminishing this force, must instantly react on the others; thus a foreign matter introduced into the blood of the general circulation will instantaneously react not only on its own circuit, but on all the other circuits (and this appears to explain several points in Messrs. Addison and Morgan's valuable experiments on the absorption of medicines). The general circuit being disturbed, that part which is common to all, viz. that passing through the lungs, is immediately affected, and this portion necessarily reacts upon the other circuits of which it forms a part. Thence the foreign body would have a tendency to affect simultaneously the perspiration, the intestinal secretion, the renal and spermatic, and as a portion of each of the circuits, *à fortiori* the lungs. Mechanically each of these parts is adapted to eliminate certain foreign bodies or products. Under favourable circumstances these will then be removed by the skin; certain impediments may prevent this, and the bowels may pour forth the fluid in which they are contained, or, if not, the kidneys (not acting as it were by the volition of these parts, but mechanically, according to the filtrating capacity of each to the peculiar fluid); thus the lungs seem adapted to eliminate gaseous matters, the skin oily or sebaceous materials, the kidneys watery, and the bowels mucous secretions. And it is evident that the electrolytic force generated in the lungs or requiring to be so generated remaining the same, the changes in all the four circuits must be together equal to that effected in the lungs; and should an impediment occur in one of the circuits, an increase *pro tanto* must take place in one or more of the others, or the power must proportionally cease in the lungs,—tending obviously to congestion. Probably thus may be explained the pathology of drowning and of cholera, in which last in all probability an electric condition of the air, unfavourable to the generation of the galvanic force in the lungs, is the real explanation of the total cessation of secretion and of vital action of all kinds; and the passive exudation of fluids from the surfaces of the intestines and the skin, the congestion of the lungs, and all the other symptoms. Has it not occurred to some that the voice of cholera patients resembles that of those who have inhaled hydrogen?

In conclusion it appears that the principal effect of the air upon the lungs, and through them upon the rest of the system, occurs especially during expiration; then, by the elasticity of the ribs, the surfaces of the lungs appear to be pressed as it were upon the air contained within them. If any one while in bed, when perfectly warm and unencumbered with clothes, will take a deep inspiration, and while his chest is slowly

collapsing will direct his attention to the capillaries of any susceptible part of his body, he will recognise a thrilling sensation, which custom has taught him not to notice ordinarily, but which he will recognise as dependent upon the action of the air in his lungs. Let him, for instance, direct his attention to the calves of his legs while this slow movement is going on, and the sensation alluded to will be easily recognised.

11, Westbourne Crescent, Sept. 22, 1849.

CHLORATE OF POTASH IN ULCERATIVE STOMATITIS.

Sir,—Allow me, through the columns of your valuable journal, to bear testimony to the value of chlorate of potash as a remedial agent in ulcerative stomatitis. I had recently an opportunity of testing its efficacy in the Coleraine Union Workhouse, and with the happiest results.

Ever since this medicine was brought under the notice of the profession by Mr. Hunt (several years since), I have used it in cancrum oris, and I may say successfully in every case. I beg to add a brief detail of the cases in which I lately employed it.

Your obedient servant,
T. H. Babington, M.B.
Medical Officer, Coleraine Union Workhouse and Fever Hospital.

Coleraine, Ireland,
Oct. 4, 1849.

August 8th.—On visiting the workhouse this morning, two boys, aged ten and eleven years, complained of having sore mouths: on examination, I found their lips and gums swollen and inflamed; their tongues swollen, indented by the teeth, and covered with a thick, foul, tenacious coating. The whole mucous membrane lining the cheeks and mouth was very red and swollen, and here and there covered over with ash-coloured sloughs. These sloughs were in some places fully an inch in length: the parts were tender to the touch, and there was a constant profuse discharge of clear hot water from the mouth. The patients complained of considerable pain when the cheeks were moved, or when any food was introduced into the mouth; and there was considerable general fever.

On the following morning three more complained, and exhibited precisely the same symptoms; and on the 10th, there were in hospital ten labouring under the disease: the symptoms were in each case the same. In three instances sloughs appeared on the back of the pharynx. The only treatment adopted was (after giving each an aperient of rhubarb and magnesia) the exhibition of "the chlorate of potash," dissolved in water, and sweetened with syrup, in doses of four grains, administered every fourth hour, and frequently washing the mouth with tepid water and a small quantity of solution of chloride of soda, in the proportion of one drachm to twelve ounces of water. No other application was used to the mouth, and in four days the patients were all discharged cured.

Several slight cases occurred about the same time amongst the children in both the male and female schools: in each case I administered the chlorate of potash with equally good result. Altogether I gave it in about thirty cases.

I had an opportunity of contrasting the efficacy of this medicine in this disease with other modes of treatment. A little girl, aged ten, was attacked with the disease as above described: this girl I treated with alteratives, local stimulants, and detergent lotions, and she was three weeks under treatment; eventually she got well.

Medical Intelligence.

THE LOTIO NIGRA AS AN INTERNAL REMEDY FOR CHOLERA.

We thought that every conceivable preparation had been used in the treatment of cholera, but a novel suggestion has just been made by Dr. Watmough, through the Provincial Journal, that medical practitioners should rely upon lime-water and calomel—in other words, that they should give black wash in small and frequent doses. We subjoin the letter, which leaves it altogether uncertain whether the lime, the black oxide of mercury, or the dry cupping and sinapisms, have been productive of the good effects witnessed by the prescriber:—

Lime-Water in Cholera.

Sir,—Of all the remedies which I have heard of, or seen tried, in cholera, I think none are so likely to be generally useful as lime-water, either with or without calomel, administered in small doses—such as one grain of calomel and half an ounce of lime-water every quarter of an hour, or less frequently, according to the urgency of the symptoms.

By immediately publishing the above you will oblige,

Your obedient servant,
Isaac Watmough, M.D.

P.S.—Dry cupping over the stomach, and sinapisms to the abdomen, should also be employed.—I. W.

Pocklington, Yorkshire,
Sept. 15, 1849.

THE RELATIVE MORTALITY PRODUCED IN THE DIFFERENT METROPOLITAN DISTRICTS, DURING THE PRESENT INVASION OF CHOLERA, UP TO SATURDAY, SEPT. 22ND.

THE large north districts extend from the Edgeware Road to the river Lea; the mortality was, for Marylebone, 15; St. Pancras, 17; Islington, 20; Hackney, 15. The mortality of Marylebone and St. Pancras is slightly raised by the Middlesex and University College Hospitals. Some cholera patients were sent out of Islington to the Free Hospital in St. Pancras, where their deaths were registered.

The middle districts, extending in a curve from Kensington to Bethnal Green, present generally a much higher rate of mortality; yet there are remarkable exceptions. The mortality in Kensington district, including Paddington and Fulham, was 19; St. James, Westminster, only 12; St. Giles, 48; Holborn, 28; Clerkenwell, 15 (5 less than Islington); St. Luke, 30; Shoreditch, 65; Bethnal Green, 75. St. James, Westminster, is a wealthy parish; the houses were rated at £69, on an average, in 1841. The rookery and other bad streets contributed among other things to raise the mortality of St. Giles district to 48. Clerkenwell, extending across the higher part of the New Road to Pentonville, has lost only 15 in 10,000; St. Luke double the proportion. The rated value of the houses, and probably the income of the inhabitants, diminish rapidly in passing from the west to the east parts of London. The average rating of the houses in 1841 was,—for St. James, Westminster, £69; St. Giles, £48; Holborn, £30; St. Luke, £28; Shoreditch, £13; Bethnal Green, £8. The two last districts are poor, and badly drained. Some of the deaths registered in Shoreditch, in a certain sense belong and have been counted to the district of St. Luke, whose workhouse is in Shoreditch.

The river-side districts of the north present a higher rate of mortality from cholera than the corresponding districts of the middle and outside range. Chelsea lost 42 in 10,000 inhabitants. Kensington, we have seen, 19; St. George, Hanover Square, extending from Oxford Street to the river, lost only 14 in 10,000; and 71 out of the 106 deaths were in the Belgrave sub-district. The mortality (57) was high with less than half the population in the low Westminster district; St. Martin-in-the-Fields and the Strand districts, rising fast from the banks of the river, lost 27 and 31 in 10,000; the city of London within the walls, 33; the London city, east district, 38; the west district, traversed by the Fleet ditch, 70, or 128, accordingly as we include or exclude the deaths in St. Bartholomew's Hospital. At the close of the epidemic these deaths may be distributed over the districts from which the patients were brought; in the meantime, the mortality of the city from cholera must lie between 43 and 57. Whitechapel lost 50; St. George-in-the-East, Stepney, and Poplar, 35, 40, 67, the mortality here being inversely as the density of the population.

Opposite the city and Whitechapel lie, on the other side the Thames, St. Saviour, St. Olave, and St. George, Southwark, where the mortality was 141, 151, 142; further east the mortality rises to 163 in Bermondsey, and in Rotherhithe, intersected by stagnant water, reaches the *maximum* 225 in 10,000, or 2¼ per cent. It will be observed that on the north bank, opposite Bermondsey and Rotherhithe, the deaths from cholera were only 35 and 40 in 10,000, yet the ordinary rate of mortality in St. George-in-the-East is 2·89, and of Rotherhithe 2·77 per cent. The mortality of Greenwich, including Deptford and Woolwich, was 61 in 10,000; Camberwell and Newington 88 and 125, less than the mortality of districts on the south river side, but much higher than even Shoreditch and Bethnal Green. The Lambeth district extends from the Thames to Norwood; over this great area and population the average mortality was 97 in 10,000. The mortality from cholera of the river side parts of Lambeth is as high as the mortality of St. Saviour, St. Olave, &c. The parts on the south side the river where the cholera has prevailed with so much violence are below the Trinity high-water mark. At Norwood there were only two deaths by cholera; at Dulwich, in Camberwell district, none; at Eltham, three; Sydenham five, in Lewisham district; so that the mortality from cholera on the high ground, and in the outer districts of Surrey on the south side the Thames, was as low as in Hampstead, Kentish-town, Stoke Newington, and Stamford Hill.

The physical causes of cholera, or rather of the mortality of cholera, may now be investigated in the soil, atmosphere, and people, of the several districts of London.—*Registrar-General's Report.*

THE PROGRESS OF THE CHOLERA IN CANADA.

SINCE our last issue, the disease has spread itself very generally throughout Canada, but especially in the Lower Province. While in this city it has steadily decreased it has been remarkably virulent at Beauharnois and the neighbouring parishes, and cases have occurred at St. John's, Granby, Sherbrooke, L'Assomption, and Chambly. We know not if Local Boards of Health have been established in these several localities; if so, they are exceedingly remiss in not

communicating to the Central Board all the cases and deaths in the neighbourhoods over which they have jurisdiction. Presuming this to be the case, we can scarcely wonder at the apathy which prevails generally throughout the Province on such a point, as the composition of the Central Board is such as to have infused general dissatisfaction, and to have marred all unity of action. It is a subject to be regretted, although scarcely suggestive of surprise.

During the month of August the total deaths in Montreal were 1171, of which 499 were from cholera.

The following returns, incomplete as they are, will enable our readers to perceive the progress of the disease in other localities of the Province :—

	No. of deaths.			No. of deaths.
Quebec	July 25th	434	to 13th August	864
Toronto	,, 29th	118	,, 15th ,,	254
Hamilton	,, 26th	6	,, 24th ,,	52
Lachine	,, 24th	2	,, 16th ,,	5
Cobourg	,, 31st	1	,, 20th ,,	12
Kingston	,, 28th	60	,, 18th ,,	114
Drummondville, C. W.			,, 3rd ,,	1
London, C. W.			,, 4th ,,	6
St. John's, C. E.			,, 9th ,,	2
Niagara, C. E.			,, 21st ,,	2
Chippewa, C. W.			,, 17th ,,	2
Port Dover, C. W.			,, 18th ,,	1

By extracting from the local papers we are enabled to obtain later information. At Toronto, up to Wednesday, August 29, there have occurred 631 cases, of which 380 died; in Hamilton, up to August 27, the total number of cases was 159, deaths 60; in Quebec, up to August 23, there have occurred 943 deaths—the number of cases not given; in Montreal, up to August 30, there have occurred 499 deaths from cholera alone. Montreal has been, therefore, singularly exempt, confirming our prediction uttered a few months ago, that, if attacked, this city would not present the same number of cases, nor the same mortality, that it did in 1832, a consequence of its improved hygienic condition.

It becomes now of some importance to test the value of the different lines of practice adopted in the disease as it has manifested itself in this province; and we would be therefore obliged if medical men, who practise in places where the disease has prevailed, would communicate with us on the subject, as soon as possible after the epidemic has ceased in their respective localities. We could thus obtain a mass of valuable information, which would add to our store of knowledge on the subject.—*British American Journal*, September.

THE CHOLERA AT ALNWICK.

It appears that the town of Alnwick, which has been hitherto spared, has been suddenly visited by cholera. Eight persons died on the first day after a few hours' illness, and twelve on the day following. It is worthy of remark, as showing how little the disease is influenced in its progress by a high temperature, that this fatal outbreak actually coincided with the recent fall in the thermometer!

METHOD OF ARRESTING THE VOMITING IN THE FIRST STAGES OF CHOLERA.

Dr. Cazen, an eminent physician of Boulogne, has used with constant success the application of volatile alkali, or liquid ammonia, on the pit of the stomach; a piece of brown paper saturated with ammonia is placed in a watch glass, and applied to the pit of the stomach, so as to produce a blister: this is effected in a few minutes. The skin having been removed, a quarter of a grain of acetate or hydrochlorate of morphine is then placed on the spot: the vomiting ceases almost immediately.

PRESENTATION OF A TESTIMONIAL TO MR. HILL.

A public meeting, most respectably attended by about 300 persons, was recently held in the school-room of Kingswood, near Wotton-under-Edge, for the purpose of presenting to Mr. W. J. Hill, surgeon, of Wotton-under-Edge, a very handsome silver salver, together with a purse of sovereigns, as a testimonial of gratitude to him for his unwearied and successful exertions during the recent prevalence of the cholera, especially in his gratuitous professional attendance on the poor. This testimonial originated in the grateful feelings of the working men, and was completed by their persevering exertions. Several of them spoke on the above occasion in a manner which did equal honour to their heads and hearts. The Rev. G. S. Weidemann, incumbent of the parish, presided on the occasion. The salver cost £25, and bore the following inscription :—"Presented to William James Hill, surgeon, by the inhabitants of Kingswood, as a token of respect to him for his benevolent, unremitting, and gratui-

tous exertions during the prevalence of cholera. A.D. 1849."

A NEW IRISH UNIVERSITY FOR GRANTING MEDICAL DEGREES.

THE public journals announce that there is an intention to found, under the auspices of H.R.H. Prince Albert, a new university for all Ireland, the government of which it is said is to be entrusted to a senate consisting of not more than seventeen persons, including the presidents of the Queen's Colleges, and representatives, the most distinguished that can be obtained of the several faculties of arts, law, and physic, of the exact and natural sciences, of agriculture, and of *belles lettres*, with a chancellor and vice-chancellor, all of whom are to be appointed by the Crown. This senate, His Royal Highness further suggests, should have the control over the system of education practised in the provincial colleges, and of the arrangements for graduation. It is nearly certain that the plan thus shadowed forth will be acted upon without much loss of time.

THE PRACTICE OF MESMERISM FOR THE CURE OF DISEASES IN THE SEVENTEENTH CENTURY.

IN the Library at Maldon there is a curious old book entitled "The Miraculous Conformist or an Account of Severall Marvaillous CURES performed by the stroaking of *the Hands* of Mr. VALENTINE GREATARICK with a physicall Discourse thereupon. In a letter to the Honourable Robert Boyle Esq. With a Letter Relating some other of his Miraculous cures attested by E Foxcroft Esq MA and Fellow of Kings College in Cambr: by Henry Stubbs Physician at *Stratford* upon *Avon* in the County of Warwick"

(Non ideon egari debet quod est apertum: quia comprehendi non potest quod est occultum)

Oxford Printed by H. Hall Printers to the University for Ric: Davis 1666

Mr. Greatarick appears to have been a sort of Monsieur Dupotet in the reign of Charles II. The curative powers of the former were brought out by "stroakings" with the hands, of the latter by passes. An equal share of success appears to have attended both. A Dr. Stubbs gave that support to Mr. Greatarick's "marvaillous cures," which is now given by some renegades in the profession to the practices of mesmerism. One fact, however, appears conclusive: this mode of cure by the hands was known a century before Mesmer was born. It should henceforth be called "Greatarickism," and not Mesmerism. Let any one read the following case of the "Marvaillous cure of Leprosy," which we have copied *verbatim* from the book, the truth of which is vouched for by Dr. Stubbs, of Stratford-on-Avon, and say whether the annals of modern mesmerism can produce a better recorded cure, or one more conclusive of the efficacy of "Stroaking of the Hands:"—

The Account of a LEPROSY cured by Mr. Greatarick in the presence of the LORD CONWAY

A Boy about fourteen years old, Sonne to a Prehend of *Gloucester*, recommended to the Lord *Conway* by the Bishop of *Glocester*, came with a letter to *Ragly*: he was afflicted with a *Leprosy* judged incurable; and had been so tenne years. At his coming to my Lords he found Mr. *Greatarick* touching people in the Field: whereupon he pressed upon and got him to stroke his body all over: this happened upon *Wednesday*: On *Friday* morning the Boy came to my Lord and delivered his Letter: whereupon my Lord sent for him up to his Chamber, and causing him to be stripped they found that the moist Salt and brinish Humour which caused a moist *Leprosy* was dryed up and in some places scaled off, the Skinne under it was Red (as under all crusts falling off) there was no itching or pricking at all nor Heat: with which symptoms he had been formerly troubled. Mr. *Greatarick* stroked him againe, and rubbed his body all over with Spittle. My Lord ordered his Boy to return if he were not cured: but he came no more (p. 28)

MEDICAL APPOINTMENT—LONDON ORPHAN ASYLUM.

THE vacancy occasioned by the lamented decease of Mr. Charles Aston Key, as consulting surgeon to this excellent institution, has just been filled up by the election of Mr. T. B. Curling, of the London Hospital.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 4th October, 1849:—Joseph Skelding—Robert Hamilton, Ipswich — George Paton, Wetherby — John Anderson, London — William Robert Stewart, London—Clement Madely Smith, Horncastle.

OBITUARY.

ON Wednesday, the 3d inst., at his house, No. 5, Carlton Terrace, Brixton, Surrey, after a very short illness, James Crawford Ferrier, Esq. M.D., in his 41st year.

Selections from Journals.

ON A NEW METHOD OF DETERMINING THE ORGANIC MATTER IN WATER. BY PROF. FORCHHAMMER.

THE test which Dr. Forchammer applies is hypermanganesiate of potash or soda,—which he prepares in this way. He heats the hydrate of potash or soda with chlorate of potash and the peroxide of manganese, according to the method of Wöhler. After heating, the salt is thrown into water, and so much diluted muriatic acid is added that it assumes a bluish red colour,—upon which carbonic acid is gas let through, until the colour has become bright red, and the manganesiate of potash completely converted into hypermanganesiate. The liquid must be cleared, either by allowing it to deposit all the oxide of manganese, or by filtering it through asbestos. This liquid may be kept for a very long time unaltered in a glass vessel with a glass stopper. The next process is to ascertain the strength of the test,—which is done by taking any determined measure of it, mixing it with water and a little alcohol, and then heating it. All the manganese is thrown down, and after being washed and exposed to a strong red heat, it is the compound oxide of manganese, 3 Mn + 4 O. This test is now applied in such a way that, for instance, one pound of the water which is to be tried is mixed with a small quantity of the test and boiled. If the colour has disappeared, another quantity is added, and the liquor again boiled, until, in going on in that way, the red colour of the liquid does not disappear any longer. After that, it is allowed to cool,—and then the quantity of hypermanganesiate of potash, which has not been decomposed for want of organic matter in the water, is determined by comparing its colour with distilled water; to which have been added very small determined quantities of the test solution. If the quantity of the test which is thus added in excess is subtracted from the whole quantity which has been used, the real quantity of decomposed hypermanganesic acid is determined, and thus also the quantity of organic matter itself. This method is liable to one fault,—viz. that *the nature of the organic matter may be different, and accordingly require different quantities of the test liquor to be decomposed.* But the organic matter which generally occurs in water is approaching almost always to humic acid, and thus the determination of the organic matter allows it to be compared. As to that part of the organic matter in water which contains nitrogen, the author thinks that he has found out a method for determining it by itself; but not having yet finished his experiments on that point, he must leave it out of the question. Water taken from a greensand spring about twelve miles from Copenhagen contained so little organic matter, that one pound only required six measures of a test solution, of which 100 measures contained the manganese of 0·526 of the double oxide of manganese; while water taken from a lake which communicates with a peat moss required 1 lb. 74 measures of the same liquor. Prof. Forchhammer, continuing for a whole year every week this analysis of the water which is used for supplying Copenhagen, observed the following facts:—1st. The quantity of organic matter is greatest in summer. 2nd. It disappears for the most part as soon as the water freezes. 3rd. Its quantity is diminished by rain. 4th. Its quantity is diminished if the water has to run a long way in open channels.—*British Association*, 1849.

*** This process is ingenious, but not adapted for practical purposes. The precipitating agent is affected by the quality as well as the quantity of organic matter; and until the former can be defined by some accurate process, the quantitative analysis will always be liable to error.

EXPERIMENTAL RESEARCHES ON THE ACTION OF QUININE, ESPECIALLY IN LARGE DOSES. A MEMOIR SUBMITTED TO THE ACADEMY OF SCIENCES, BY M. BRECQUET.—REPORT OF MM. ANDRAL, RAYER, AND LALLEMAND.

M. BRECQUET records the effects on the principal organs of the animal economy, of sulphate of quinine, in doses of fifteen grains and upwards. His experiments have been made upon living animals; to these he adds observations on patients to whom he has administered the remedy in the above-named doses.

1. *Effects on the organs of circulation.*—These were of two kinds,—first, as regards the frequency; secondly, as regarded the force of the pulsations of the heart. The frequency of the pulse was variously reduced from eight to forty beats in the minute.

Alterations in the force of the heart's action were observed by the aid of M. Poiseuille's hæmadynamometer applied to the carotid artery of animals, in whom at the same time solution of sulphate of quinine was injected into the left jugular vein. Varying with the quantity injected, the force was observed to be diminished from a seventh to a tenth, a fourth, a third, and a half; and at last, on injecting thirty grains of the bisulphate in about four ounces of water, all pressure disappeared, the heart's action

ceased, and instant death by syncope ensued. These effects were observed to follow regularly, whether the quinine were administered by injection into the vessels, by the stomach, or by insertion into the cellular tissue.

2. *On the nervous centres.*—Injected directly towards the brain by the carotids or ascending aorta, great cerebral excitement and convulsions were produced. If the quinine reached the brain by the more indirect route of the general circulation, agitation, headache, vertigo, tinnitus aurium, paralysis of the nerves of the special sense, muscular twitching and subsultus tendinum, apparent intoxication, then general collape and loss of all voluntary power. Dissection generally disclosed great congestion of the brain and its membranes, and even meningitis.

3. *On the organs of respiration.*—No appreciable effect was observed, except what might be referable to the slower propulsion of the blood by the heart.

4. *On the digestive organs.*—Inflammation of the mucous membrane, attended with its usual symptoms, though not generally of a severe character.

5. *On the urinary apparatus.*—Pain, frequent micturition, hæmaturia, dysuria, and retention, have been noticed, but always in a slight degree.

6. *On the organs of generation.*—Uterine hæmorrhage of the female, and debility of the organs in the male.

7. *On the skin and subcutaneous cellular tissue.*—Numbness and coldness of the surface, ecchymosis and petechiæ, more or less extensive.

8. *On the blood and other animal fluids.*—When blood drawn from the vessels was placed in contact with solution of quinine, it became liquefied, and the globules were destroyed; but in order that such effects should take place in the living body, the presence of a much greater quantity than can be taken by the stomach would be required. Animals poisoned by this medicine did not present this liquid state of the blood, but an increase in the proportion of fibrin was found. No trace of quinine could be discovered in the milk or mucous secretions.

The absorption and elimination of quinine in reference to its therapeutical employment, was ascertained by noting the period at which a precipitate appeared in the urine, on the addition of the bi-iodide of potassium, and by observation of the symptoms referable to the nervous system. Thus it was observed that the sulphate in doses exceeding three grains is absorbed in from half an hour to two hours, and produces its physiological effects in another hour. These will continue for about half an hour. A dose of fifteen grains in six hours continues to manifest its influence for from five to six hours. Thirty grains, administered in two hours, produce symptoms lasting from twelve to fifteen hours. When the sulphate has been administered for several days, the effects continue many days after it has been withdrawn. The medicine is completely eliminated at the end of ten or twelve hours after small doses, and in about forty-eight or seventy-two hours after large doses.

Women and children are more susceptible of its influence than men; and the stature and strength of the individual modifies its effects. Loss of blood increases also its influence, diminishing its stimulating, and increasing its depressing action. Opiates act in a similar manner, while alcoholic stimulants have a reverse operation.

In reference to its therapeutic properties, M. Brecquet found that the sulphate is the most active of all preparations of quinine; that the alkaloid itself has an action identical with the sulphate, as has also cinchonine, but that the latter is by one-third less powerful; that quinoidine has the same action as quinine on the nervous system, but is much more irritating to the alimentary canal.

M. Brecquet found the solution of sulphate more active by one-half than the same compound in the dry state. Administered by enemata, absorption was found to take place more rapidly than when it was given by the mouth, but the effects lasted a shorter time, and the alkaloid scarcely produced its physiological action. Employed for frictions, ointments, lotions, and other endermic methods, the absorption was very feeble, and no physiological action whatever could be traced.

The physiological and therapeutical effects of this medicine were more regularly and powerfully obtained by its administration in repeated doses; its exhibition therefore requires to be continued for a certain period. —*Comptes Rendus*, No. 22. χ

ON THE HEAT EVOLVED IN SALINE COMBINATIONS

Dr. Andrews has come to the following conclusions respecting the heat evolved in the solution and mixture of salts:—1. The solution of a salt in water is always accompanied by an absorption of heat. 2. If equal weights of the same salt be dissolved in succession in the same liquid, the heat absorbed will be less on each new addition of salt. 3. The heat absorbed by the solution of a salt in water holding other salts dissolved is generally less than that absorbed by its solution in water. 4. The heat absorbed by the solution of a salt in dilute mineral acids is generally greater than that absorbed by its solution in water.—It

was further shown by Dr. Andrews that in reference to the combination of acids and bases, the heat developed during the union is determined by the base, and not by the acid. An equivalent of the same base combined with different acids produces nearly the same quantity of heat. When a neutral salt is converted into an acid salt by combining with one or more equivalents of acid, no disengagement of heat occurs. When a double salt is formed by the union of two neutral salts, no disengagement of heat occurs. When a neutral salt is converted into a basic salt, the combination is accompanied by the disengagement of heat. When solutions of two neutral salts are mixed, and a precipitate formed from their mutual decomposition, there is always a disengagement of heat, which, though not considerable, is perfectly definite in amount. —*British Association*, 1849.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

Electricity as a Cause of Cholera or other Epidemics, and the Relation of Galvanism to the Action of Remedies. By Sir Jas. Murray, M.D. T.C.D.

The Edinburgh Medical and Surgical Journal. October 1849.

Journal of Psychological Medicine. October 1849.

Observations on Cholera. By G. G. Bird, M.D.

Malignant Cholera, its Mode of Propagation and Prevention. By William Budd, M.D. Bristol.

Report of the Graduates of the University of London. By their Committee. Sept. 1849.

The Cyclopædia of Anatomy and Physiology. By R. B. Todd, M.D. F.R.S. Part 37.

A Letter to the Rt. Hon. Lord Ashley, relative to the Case of Nottidge *v.* Ripley. By T. T. Wingett, M.D.

Demonstrations of Anatomy. By G. Viner Ellis. 2d Edition. Part 2.

Guy's Hospital Reports. October 1849.

The British and Foreign Medico-Chirurgical Review. October 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·37
" " " Thermometer[a] ..... 51·2
Self-registering do.[b] .... Max. 59·3 Min. 52·1

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 2·2.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 2°.3 above the mean temperature of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Oct. 6.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	631	Males....	622	Males....	583
Females..	551	Females..	668	Females..	579
	1182		1290		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	1290	1162
Specified Causes	1284	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	608	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	44	49
3. Brain, Spinal Marrow, Nerves, and Senses	101	125
4. Heart and Bloodvessels.....	23	40
5. Lungs and organs of Respiration	123	214
6. Stomach, Liver, &c.	76	65
7. Diseases of the Kidneys, &c.	9	11
8. Childbirth, Diseases of Uterus, &c.	6	10
9. Rheumatism, Diseases of Bones, Joints, &c.	12	8
10. Skin.....	3	1
11. Old Age	48	57
12. Sudden Deaths.....	5	12
13. Violence, Privation, Cold, &c....	22	36

The following is a selection of the numbers of Deaths from the most important special causes :

Small-pox.....	8	Convulsions.....	38
Measles.....	14	Bronchitis.....	37
Scarlatina	39	Pneumonia.....	71
Hooping-cough	27	Phthisis	92
Diarrhœa.....	135	Lungs	4
Cholera.....	288	Teething	15
Typhus.....	53	Stomach	10
Dropsy	9	Liver.....	14
Hydrocephalus	20		
Apoplexy	20	Childbirth	3
Paralysis	15	Uterus.....	3

REMARKS.—The total number of deaths was only 128 above the weekly autumnal average.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Mr. T. J. Herapath, Bristol.—We shall be glad to receive the further results of our correspondent's chemical observations.

Dr. E. L. Ormerod.—The papers have been received, and arrangements will be made for their early publication.

Dr. Babington, Coleraine.—The letter on Cholera will be inserted in the following number. The remarks on the Fever of 1847-8 will be acceptable.

Dr. F. Ogston, Aberdeen.—The case shall receive our attention.

Dr. Nicholas Parker's remarks on the Microscopical Pathology of Cholera will be inserted, if possible, next week.

Dr. Basham's communication has come to hand, and will have early insertion.

Mr. Rynd's note has been referred to the publishers.

RECEIVED.—Lieut. Jackson.—Mr. Hinton.—Mr. Wm. Smith.—Aris's Birmingham Gazette.—The Army and Navy Register.—Williams and Norgate's Classified Catalogue of all Books published in Germany, &c. on Medicine, &c.

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Daniel Whitehead, admitted Sunday, June 8, 1845, under Dr. Williams.

Case.—*Acute albuminuria, followed by rheumatism, endocarditis, and pericarditis.*

Of moderate stature, five feet seven inches, stout, and robust conformation, sanguine temperament. Complexion, fresh and ruddy, dark hair, blue eyes. Has been a labourer and carman at Bromley in Kent; but since the 23rd of May a town policeman in London, since which period he has resided at the Police Station in Hunter Street, a dry situation. He has lately suffered much from fatigue in the performance of his duty. Had night duty once only. He generally went to bed at eleven o'clock, sometimes getting up as early as five, sometimes as late as ten A.M. While at Bromley he lived well, taking meat twice a day. Accustomed to drink plenty of tea and coffee, but also about Oij. of porter in the course of the day—*never more.* Has very rarely taken spirits. Has been tipsy perhaps three times in the year. Of a cheerful disposition.

Hereditary predisposition.—Father alive, æt. 52, liable to gravel and rheumatism, and severe pain across the loins. His mother is also alive, æt. about 50. She is very liable to headache and determination of blood to the head, which obliges her to keep her head always shaved. His grandfather by his father's side is alive, between 70 and 80, also liable to rheumatism. His mother's father died of some disease of the urinary organs, he believes gravel. Has four brothers and two sisters; one of his sisters is liable to sick headaches; one brother to some chest affection: in other respects they are healthy.

Habitual state of health.—He himself is generally healthy. He had scarlet fever when about twelve years old. Never had rheumatism before. Has lately been very liable to epistaxis, which first made its appearance three years ago. It would come on whenever he got his feet wet, or had a cold in his head, always accompanied with severe headache. It would last for a day or two, and then pass off again. Since he has been a policeman it has again recurred, and continued off and on ever since, sometimes as often as two or three times a day.

Present attack.—He has generally been warmly dressed, but since compelled to wear the police uniform he has always felt cold. Being kept as a reserve man, he was compelled to remain sitting in the police yard, where he was much exposed to cold, and frequently to rain, and though in this manner he was often wet through he was not allowed to change. This occurred on the very first day he became a policeman, *i. e.* the 22nd May. Towards the evening of the day, while sitting in the yard he felt very cold and chilly, with rigors and much thirst; but there was no nausea, general pains, or pyrexia. He continued in this state till half-past ten o'clock, when he went to bed, and, as he got warm in it, all these sensations disappeared. Next morning when he got up his limbs felt generally painful and sore. There was especially *severe pain across the loins;* also intense headache, but no sickness, and he felt generally chilly. However, he managed to get out on his duty (23d). He slept better that night, and on Saturday morning (24th) he got up at six o'clock, and went the rounds. The pyrexia generally continued, the headache was very severe, and he felt "very queer." He was relieved at nine o'clock, but he could not eat his dinner that day, but drank some tea, and he seemed a little better after it. He was again obliged to go on duty at two, but when the sergeant came at five o'clock he asked to be allowed to go home, as he felt very ill and feverish. He was persuaded, however, to remain for half an hour, but he could not stay longer than ten minutes, when he returned to the station-house, and from thence walked to the police surgeon. He was obliged to wait for him in the passage, where he felt very cold and chilly. He got some medicine, and went to bed. He then noticed his knees, ankles, and groins, were swollen. He spent a restless and feverish night. Next morning (25th) he went to the surgeon's, who gave him another draught. He continued very ill all day, but towards evening his bowels being freely moved, he felt much better.

On Monday (26th) he was reported fit for duty. While listening to the police orders in a narrow and close room with forty or fifty other policemen, he became suddenly very faint and sick, and his nose began to bleed. He went out in the open air, and was given a glass of cold water, which soon brought him to again. That night he was put on night duty; the temperature was 48° Fah.; barometer 29·90 at change, and the wind east. He kept, however, on his beat, but during the night he suffered from *violent diarrhœa*, feeling generally feverish and sick. In the morning he was no better,

and could not eat his breakfast. He drank some tea, and went to bed, and broke out in a profuse perspiration. At night he was unable to get up, and the surgeon came to see him. Medicines were given. The next afternoon at three o'clock the surgeon called again. He was then very feverish; there was severe pain in the ankles and knees, which were red and swollen. There were pains all over the back, *especially across the loins;* intense headache and rigors, followed by copious perspirations, *and he felt very drowsy.* A powder was given to him, but his bowels were not moved. From this time he began to feel very drowsy and stupid, and is unable to remember anything that has occurred to him since.

From what could be collected from the sergeant it appeared he had continued under treatment up to the time of his being transferred to the hospital, with no amelioration to his symptoms. The torpidity was at times very great, and he was perfectly unconscious of what was going on. His bowels had not been much opened. The urine was very scanty and high coloured. He was admitted on Sunday evening, but I did not see him till Monday morning the 9th.

June 9th, 10 A.M.—*Present state.*—The colour of skin over trunk is natural. There is no eruption or increased cutaneous sensibility; no apparent emaciation; no anasarca. He is at present lying on his back, and does not prefer any particular position. Some redness and swelling of both ankles, but the right ankle is not painful. The left knee tender, but not swollen. Both wrists red, scarcely swollen, very painful on motion. No rigors at present. Heat of skin above the natural standard, covered with copious *sour perspirations.* His extremities and body generally feel very sore, as if he had been beaten all over. He feels weak, tired, and very restless. He is every now and then, as if involuntarily, picking his bed-clothes, and lifting them from him, and then dropping them again. His movements in so doing are *slow*, and do not seem very *precise.* The expression of the countenance is heavy and anxious; cheeks flushed, of a vivid red colour. The lips, especially the inferior, somewhat livid. There is every now and then involuntary knitting of the brow, but no intolerance of light; pupils equally contracted, but not unnaturally so. Has quite lost his senses of smell and taste. Hearing unaffected. Nostrils bloody from some recent epistaxis. *Occasional grinding of the teeth*, and every now and then the *right angle of the mouth is drawn upwards.* His articulation is slow, otherwise clear. There is considerable headache, and he seems very drowsy and stupid, requiring to be spoken to rather loudly before he answers, the torpor being great. He says he sleeps a good deal, but is tormented by frightful dreams. The night nurse states he talked a good deal in his sleep. There is throbbing in the head, and he feels as "if his pulse was beating there."

His memory is confused, and he does not seem to know where he is, or how he came in to the hospital; spirits very low; no actual delirium. Intellect heavy, but his answers, so far as they go, appear quite rational. Sensation of skin unaffected on the left side. On the right side it is scarcely so good. There is considerable pain along the back, especially between the scapulæ and across the lungs.

Walls of the chest are thick; no muscular irritability of the parietes. Respirations deep, having somewhat of a sighing character, twenty-one in a minute, chiefly diaphragmatic, the ribs scarcely moving. No pain in the chest; slight cough. Chest measures three feet round; right half one foot six and a half inches. The vocal vibrations somewhat stronger on the right side, which is also duller on percussion. Respiration is, however, healthy. There is no bulging of the heart, or purring tremor. Impulse stronger than natural. Cardiac dulness reaches as high as between fourth and fifth rib: as low as sixth rib. Transverse dulness begins half an inch on this side of the sternum. Second sound is short and clacking; first sound somewhat prolonged. There is no venous regurgitation in the neck. The carotids are seen pulsating. No palpitation or pain of the heart; pulse 96, occasionally *intermitting*, pretty full; tongue thickly covered with a thick yellowish fur; breath rather foul. Abdomen appears to be of the natural size, and there is some obscure fluctuation in the right iliac fossa; and by Dr. Williams' test about three-eighths of an inch of fluid can be detected. The abdominal aorta can be felt pulsating. No appetite; no nausea; thirst excessive; bowels not open. The liver reaches two inches below the margin of the ribs, and as high as between the fourth and fifth ribs, and apparently gives a prominence to the whole hypochondriac region. The organ itself is tender. Spleen does not reach below the margin of ribs. Much pain across the loins, and considerable tenderness over both kidneys, especially the right, which is large. The left may also be large, but a quantity of fæcal matter in the descending colon prevents its size being accurately determined. The urine is high coloured, sp. gr. 1027, *very albuminous*, to half the quantity tested; *very* acid, with great relative excess of urea.

Supposed exciting cause.—Attributes his present illness to exposure to cold while doing duty as a policeman. He was

ordered by Dr. Quain, Hydr. Chlorid. gr. v.; Pulv. Ipecac. Co. gr. viij. h. s. s.; cras mane Haust. Sennæ. Low diet.

9th.—His mind wandered again during the night. He seems rather less torpid than before; head aches; sour and profuse perspirations, and swollen joints much the same; pulse 100, still *intermitting*. There is still occasional knitting of brow, and drawing of the right angle of mouth; no nausea or appetite; great thirst.—℥xvj. of urine have been passed, very acid, sp. gr. 1036, muddy, with a copious precipitate of lithates, and great excess of phosphates and urea; albuminous to one-third the quantity tested.—C. C. lumbis ad ℥xij.; statim sumat. Hydrarg. Chlor. gr. iv.; ℞ Vin. Colchici. ♏xxv.; Sodæ Carb. gr. x. ℥j.; Aquæ ℥iss. ter die.

June 10th.—The patient is better to-day, perspiring freely; kidneys still enlarged and painful. No anasarca. Face still flushed; expression of countenance heavy. Still drowsy. Headache less. His intellect does not seem nearly so confused to-day, and he answers questions rationally; bnt there is still occasional grinding of the teeth and knitting of the brows. Continues to pick his bed-clothes as before. Thc wrists are a little more swelled; ankles and knees no better. Impulse of heart increased; first sound rather prolonged. Pulse 96, softer. Tongue still covered with a thick yellow fur. Bowels well opened. Has made ℥xvj. of urine, exclusive of what he has passed with his stools: it is very high coloured; sp. gr. 1034; acid, with relative excess of urea.—Rept. C. C. aa. ℥xij. lumbis. Hora somni habeat Hydr. Chlorid. gr. v.; Pulv. Opii, gr. j. cras mane Haust. Sennæ.

11th.—The intellect seems to be much clearer to-dry: he is aware where he is, and does not feel so drowsy. The knitting of the brow is not so constant. Pupils rather contracted than otherwise. No headache, but slight throbbing in the head occasionally. Has not yet recovered his smell and taste. No grinding of the teeth and drawing of the right angle of mouth. Slept pretty well last night, but still spoke in his sleep. Thc right wrist is a little red and puffy, but not nearly so much as before. Ankles much less rcd than before. The knees are tender, but neither red nor swollen. The tenderness of kidneys continues. The liver is scarcely so tender now; it reaches rather less than one inch below the margin of the ribs. Nose bled this morning. Bowels open. ℥xxxij. of urine passed to-day: sp. g. 1030; very acid; rather high coloured; clear, with some excess of phosphates, and only a trace of albumen.—Auge Vin. Colchici, ad ℥ss. cras mane Haust. Sennæ.

13th.—There is still a little tenderness of the right ankle to-day, and some effusion in the right knee. The wrists much better. The dulness on percussfon of the liver reaches as high as before, but not below the margin of the ribs. There is a distinct systolic murmur heard at the base of the heart; also at the top of the sternum, and in the carotids. A slight roughness also with the second sound, heard also in th right carotid, but not so distinct beneat the mammary region. There is a slight fluctuating impulse of the heart *seen* between the second and third and third and fourth ribs. The dulness extends to the right half of the sternum. Pulse 84, a little jerking. Bowels not open since this morning. The intellect is quite clear. Tongue still greatly furred, but cleaning. The sour perspirations persist. Appetite improving.—℞ Emplast. Lyttæ lumbis. Hora somni sumat. Calomel, gr. iv.; Pulv. Opii, gr. ss. fiat pil. cras mane. Haust. Sennæ.

14th.—Feels much better. He can bear pressure upon the wrists without pain. The middle knuckles of the left hand are tender and painful. Tenderness about thc legs less. The blister has risen well. Has a little headache to-day. Intellect quite clear. He seems very lively, and in high spirits. Bowels open once to-day. Tongue still furred, and to-day the fur has a distinct *brown tinge*. Had epistaxis again this morning. The action of the heart is strong. Cardiac dulness reaches transversely from the left border of the sternum to four inches and three quarters externally; superiorly as high as the upper border of the second rib. Systolic murmur at the base persists. Second sound is reduplicated, most loudly heard on a level with, and to the right of, the nipple of the left mamma. Occasional palpitation. Pulse 76, jerking. There is a good deal of muscular tremor over the walls of the chest. Has passed ℥xxiv. of urine: sp. gr. 1016; acid, with some excess of phosphates, and a trace of albumen.—Repet. pil. hora somni.

16th.—He does not feel quite so well to-day; which he attributes to his having got up yesterday (Sunday) for two hours. His face is more flushed, and there is occasional knitting of the brow as before. The right wrist is swollen and tender, but not red. The inside of the right knee tender, but not swollen. The ankles, also, are rather painful. Tongue thickly covered, brown, but the fur peeling off in some parts. Epistaxis rcturned this morning, but his sense of smell is improved. Every thing he takes tastes salt. Gums rather tender, but not turgid. There is a feeling of tenderness over the cardiac region not cxactly amounting to pain. Externally it is tender on pressure. Impulse is strong. The dulness does not extend higher than the fourth rib, nor more than two inches and three quarters across

by actual measurement, beginning at the left border of sternum. The reduplication of the second sound is much more faint on the inner side of the left nipple. Systolic murmur as loud as before. Pulse jerking; 80. Extent of liver as before. Perspired profusely last night, and in consequence slept little. The pain in the right knee also prevented him. Two specimens of urine were examined: morning specimen, 1017; slightly acid, no excess of phosphates, and albuminous; evening, sp. gr. 1010, with some excess of phosphates, no albumen: in all, ʒlx. passed in twenty-four hours.—C. C. regioni cordis ad ʒx. Repet. pil. et Haust. Sennæ.

17th.—The ankles not in pain to-day. The right knee painful and swollen, but not red. Right wrist less swelled, and he can move his fingers freely. Bowels open once a day. Slept very well last night. No headache, but occasional dimness of sight. Cardiac limits of dulness as before. Both sounds are muffled and weak at the apex of the heart. Systolic murmur at base and in carotid persistent. No reduplication whatever of the second sound. Pulse 108, still jerking. Scarcely any renal tenderness. Perspirations continue, but are not so sour in smell. Slight epistaxis this morning. Gums sore. Appetite good. ʒxviij. of urine saved: acid; sp. gr. 1015; of a clear amber red colour; slight excess of phosphates; a trace of albumen.

18th.—The head feels rather giddy to-day, and there is some intolerance of light. Feels also more sleepy and drowsy. Had considerable headache after his dinner, which has, however, since disappeared. Face flushed. Tongue covered with a thinner but much browner fur. When in the recumbent position there is much dyspnœa. The respirations sometimes costal, sometimes wholly diaphragmatic. Right wrist a good deal swollen, but not so painful. First and second knuckles of the left wrist also painful and swollen. There is no tenderness over the cardiac region, but a considerable thrill is felt over it. A little fluid can be felt in the pericardium. The finger is lifted up when pressed over the intercostal, but *before* the impulse of the heart a *stroke of fluctuation* is communicated to the finger. The impulse encroaches on the sixth rib, but is still felt between the fifth and sixth ribs. The sounds are heard distinctly at the apex. Pulse 88, more jerking than before, actually snapping the finger. The same jerking character of the pulse is *seen* in the carotids. Some stiffness across the loins. Right kidney slightly tender. Two specimens of urine examined: morning specimen, sp. gr. 1026, *alkaline;* evening, 1017, slightly acid, no albumen.—Repet. pil. h. s. Empl. Lyttæ regioni Cordis.

19th.—Slight pain over hip-joint and great trochanter. Sciatic nerve unaffected. No pain or swelling in the knees or ankles. First finger of left hand and middle of right swollen and painful. About nine or ten last night had several rigors. Some headache posteriorly. Cardiac symptoms as before. Bowels open two or three times. ʒxx. of urine passed: sp. gr. 1020; no albumen.—Adde Haustui Tinct. Cantharides, ℥xx. sing. do.

20th.—Both hands are better. There is considerable effusion in both the knee-joints, especially the right, which is more swelled than the left. Both shoulders stiff and painful. He complains chiefly to-day, however, of pain which he refers to the external and posterior parts of the lower ribs of the right side. Much tenderness on pressure at this part, especially when made from below towards the lungs. The pain is increased by a deep inspiration; it is lancinating in character, as if a knife was running through him at this part. Respirations thirty-two in the minute. Opposite the eighth rib posteriorly a double friction sound is heard of a leathery character, both with the inspiration and expiration. The expression of countenance is more heavy, and his spirits are low. Very trifling epistaxis this morning. Lips inclined to be livid, especially the lower. He has made ʒxx. of urine: sp. gr. 1020; distinctly alkaline; no albumen.

21st.—Both the wrists and knuckles are less painful to-day. Skin moist; perspirations less. Lips less livid. Gums tender, with here and there white films. The breath has distinctly the mercurial fetor. Slight epistaxis this morning. Has still the salty taste in his mouth. Tongue furred, dry, and brown in the centre. Cardiac dulness does not reach higher than the fourth rib; about two inches transversely reaches as low as the upper border of the seventh. Impulse is extensive, but does not reach higher than the fourth or lower than the seventh rib; and the fluctuating motion is much less evident. The aortic murmur persists. There is a considerable interval between the heart's systole and the pulse at the wrist, which last is synchronous with the second sound. The cardiac tremor is much less evident. On a level with the eighth rib posteriorly, where the pain was so severe yesterday, a crackling crepitation is heard, small in kind, at the end of inspiration and beginning of expiration. The breathing is weak generally at this part. There is some slight dulness compared with the opposite side, which moves about half an inch by change of position; indistinct ægophony heard occasionally. The vocal vibrations opposite the ninth rib are very weak. On the left side posteriorly some large crepitation is heard. Slept well last night. Ap-

petite good. Abdomen very tympanitic. Pulse 80, less jerking in character, and less visible in the carotids than before. Sp. gr. of urine 1022, acid, no albumen.—Omitte Haust. ℞ Decoct. Cinchonæ, ℥j.; Vin. Colchici, ♏xx.; Sodæ Sesquicarb. gr. x.; Aque Menthæ, ℥iss.; Acid Hydrocyanici, ♏v. ter die.

23d.—There is scarcely any effusion now in the knees. No pain in the wrist, only slight stiffness. Shoulders a little painful when he moves. Did not perspire last night. Skin rather hot and dry to-day. Back is painful. Feels weak, tired, and restless. Countenance flushed; expression natural. Mouth feels dry, but the salty taste has disappeared since his medicines have been altered. No headache or giddiness. There is no pain posteriorly opposite the eighth rib, and no crackling heard in the same place. There is complete dulness over cardiac region as high as the fourth rib; incomplete as high as the third. The dulness extends to upper border of seventh rib. The heart measures transversely three inches, beginning at the left border of sternum. Tongue brown only posteriorly. Has made ℥xliv. of urine: sp. gr. 1020; alkaline, of a pale yellow colour.

25th.—There is only some puffiness remaining in the knees, and the shoulders are still somewhat stiff: in other respects he feels better. No headache and giddiness. He is up to-day, and walking about. A few sudamina have made their appearance over the chest. Cardiac symptoms as before, except that the dulness transversely is less, beginning at the left border of the sternum. Has still slight epistaxis every morning. His urine yesterday was distinctly alkaline, as also to-day. Yesterday he passed ℥lvi.; to-day ℥lxiv. in the twenty-four hours: sp. gr. 1015. Slight flocculent precipitate, which under microscope was found to consist of granular matter and triple phosphate.

27th.—There is some œdema and swelling of the right wrist, but no pain or swelling any where else. No rigors; skin cool and moist. Perspired but very little last night. Feels much stronger; expression of countenance natural. No headache or giddiness. Sleeps well. Spirits good. No palpitation or pain at the heart. Pulse 92, soft. Cardiac dulness begins at the lower border of the fourth rib, reaching to the upper border of the sixth, three inches and a half transversely, *i. e.* from the middle line of the sternum to the nipple. The aortic murmur persists, but is less loud than it was. It is indistinctly heard at apex and beneath right clavicle; heard at top of sternum and in carotids. Has made ℥lxii. of urine: alkaline; chemical reactions as on the 25th.

30th.—There is no swelling or pain in any of the joints. He feels quite strong. The expression of his countenance is natural. No epistaxis, headache, or giddiness. Sleeps well. No palpitation or pain at the heart. The carotids are *seen* indistinctly pulsating. Cardiac dulness begins at the left border of the sternum, extending to the nipple, three inches transversely, from above the fourth rib downwards to the sixth rib. Apex seen pulsating between the fifth and sixth ribs. When the patient is placed in the recumbent position the murmur with the first sound is heard less loudly at the base than at the apex, but it is still heard at the top of the sternum and in the carotids: at every four or five beats there is also a slight murmur heard after the second sound. Placed in an erect position, the murmur at the base is much louder than at the apex, and quite supersedes the first sound. The pulse 92, soft, but still synchronous with the second sound. Respiration healthy everywhere. In semi-erect position liver reaches about one inch and a half below the margin of the ribs, but not higher than sixth. In the recumbent, as high as between fourth and fifth, and not below the ribs. No tenderness whatever in the region of the kidneys. Has made about ℥xlii. of urine: not examined.—Discharged cured.

Remarks.—Diagnosis. On his admission he was evidently labouring under rheumatism. The only other disease to which his symptoms might be referred was *gout*. In gout, however, the inflammation is limited to one or two joints; 2. The large joints were also affected; in gout the small joints almost exclusively are inflamed. 3. There was copious sweating. This is very rare with gout. 4. The odour of the perspirations was *very sour*, a symptom characteristic almost of rheumatism, very rare in other diseases, and which we have only noticed in some cases of delirium tremens besides. 5. There was rheumatic hereditary predisposition.

But there was also acute albuminuria, which there was reason to believe had preceded the rheumatism. As in the case of Crouch, he had had violent purging, and been much exposed to the influence of cold; but when this had subsided he had been in a state of stupor for a whole week. There was considerable pain across the loins. The kidneys were tender on pressure, and the left distinctly enlarged, and the urine when examined was exceedingly albuminous. There was also, it is true, a relative excess of urea; but a positive deficiency, even on his admission, in the amount of solid matter excreted. At an earlier period it was probably even less. On the 9th he passed ℥xvi.

in the twenty-four hours; sp. gr. 1036. Supposing Becquerel's average correct, a sp. gr. of 1018, and 12·8 gr. of urea in 1000 grains, then 1018 gr. of urine will contain 13·030 gr. of urea, 1036 gr. of urine, 13·26 of urea, which would be equivalent to 101·83 gr. of urea excreted in the twenty-four hours, instead of the usual average 255 gr.: whence we conclude, that although there was relative excess, there was positive deficiency. The exact numbers are not insisted on, but we think the general deductions correct.

Nature of the head affection.—There was intense headache; knitting of the brow; occasional grinding of the teeth. The right angle of the mouth was drawn slightly upwards. Respiration slow. Head throbbed. Articulation slow; there was great, and there had been still greater stupor; loss of memory; picking of bed-clothes; and intermittent pulse. The question therefore presented itself, could not this be a case of phrenitis in the second stage?

This supposition appeared improbable—1st, in the history of the case no period of unusual excitement had been observed; there was no marked paralysis or dilatation of the pupil, as we should expect in a case where the effusion was so complete as to affect *consciousness*. The breathing was *easy*, not *stertorous*. 2ndly, we were led to the belief that no phrenitis existed from comparison with another case of albuminuria, to be next mentioned, where evidently the whole train of symptoms were dependent on urea circulating in the blood. Here also there was occasional grinding of teeth; occasional twitches and drawing of the angle of the mouth; considerable drowsiness; much pain and throbbing in head, and loss of memory; so far the case agreeing perfectly with this, differing only in so much that epilepsy occurred in the course of treatment. Taken in connexion, therefore, with those characteristic of renal disease, the head symptoms were exclusively referred to the retention of excrementitious matters in the blood, particularly urea, and not to any local inflammation about the brain.

Treatment was founded on the above diagnosis.

Experience has shown that when albuminuria occurs in connexion with rheumatism, or any other inflammation indeed, this last is very apt to assume a typhoid character. Unless, therefore, that inflammation attack (and that extensively) some *vital* organ, general bleeding should be avoided. For this reason the depletion used was only local, and chiefly directed towards the affected kidneys. In addition, brisk purgatives were given, thus adopting the usual course observed by the *vis medicatrix natura*, while to attack more directly the rheumatism, alkalies, to remove the excess of acid and colchicum, the specific for rheumatism, were given. Later, bark was conjoined. Judging from the *brown tongue*, Dr. Williams had remarked during the first days of the patient's admission that bark would be subsequently required to complete the cure.

In the process of the case there were several interesting symptoms observed. The *heart* from the first had been slightly affected, the first sound being *prolonged*. On the 13th this prolongation amounted to a *distinct murmur*. This was *aortic* in kind, as it was heard most distinctly at the *base* of the heart, at *the top of sternum*, and in the *carotids in the neck*. On the 14th a slight *reduplication of the second sound* was heard. This might be due to the less mobile condition of the aortic valve, as compared with the *pulmonic*, due to the disease in the former; the *slow pulse*, 76, also tending to develop this reduplication. But there were reasons to believe it was due to the *pericarditis* present. It was a singular fact, that in this case no *to-and-fro* sound was heard, though there was distinctly pericarditic effusion. Thus there was increased cardiac dulness, reaching as high as the second rib. In pure enlargement it does not usually reach higher than between the third and fourth ribs, the dulness extending usually downwards, sometimes as low as the seventh rib. But *fluctuation of fluid* was distinctly *seen* between the second and third, and third and fourth ribs, through the parietes of the chest. This reduplication of the second sound might therefore have been but a single *rubbing* sound; the double *to-and-fro* sound, by reason of the rapid effusion having existed for too short a time and not been observed. Moreover, we know that after the absorption of pericarditic effusion a single rubbing sound sometimes only is heard, and not the to-and-fro double sound. Besides, the murmur heard as late as the 30th, after the second sound occasionally, was perhaps after all but a rubbing sound connected with the previous pericarditis. The amount of dulness was greatly diminished on the 16th, especially transversely.

On the 17th the rubbing sound or reduplication had disappeared, but fluid still existed, as evidenced by the weak and muffled sounds at the apex. On the 18th a little fluid could still be felt, the finger being lifted up when pressed over the intercostal space, but before *the impulse of the heart a stroke of fluctuation was communicated to the finger*. The above symptoms point out the necessity of calling to our aid in diagnosis of cardiac disease the organs of sense and touch, as well as hearing; for from the

16th it was by the two former senses alone that the diagnosis of pericarditic effusion could have been made out, percussion being fallacious and insufficient to distinguish the case from one of mere *cardiac* engorgement. The single rubbing sound was doubtful in character; indeed, as the pulse quickened on the 16th, when it was 88, and on the 17th, when it was 108; in the first case it was less obvious, in the second not heard at all; the former explanation, therefore, the lesser mobility of the aortic valves, might be the true cause of this reduplication after all.

He had a relapse on the 16th for the worse in the rheumatic symptoms, which was probably due to his getting up, or the jerking character of the pulse might in itself be sufficient to keep up the rheumatism (Dr. Williams). Perhaps this jerking pulse might have been due to the mercurial given, which sometimes develops this symptom to an unusual degree.

On the 20th one of those mild and transient pleurisies, frequently called pleurodynies by mistake, but so often observed in rheumatism, made its appearance. He complained of severe lancinating pain about the eighth rib posteriorly. Taken in connexion with the alkaline urine, it might be due to nephritic inflammation, probably induced by the cantharides taken internally, or the blisters employed. There was, moreover, some pyrexia; a rigor had preceded the pain. Face was anxious, with much headache; but the lower lip was livid; respirations were increased in frequency; there was difficulty on taking a long breath; such increased the pain, which became still more acute on pressure upwards from below the ribs, and the stethoscope detected a rubbing sound both with the expiration and inspiration, which sufficiently pointed out its pleuritic nature. The next day, the feverish symptoms having disappeared, the friction sound had given way to a crackling sort of crepitation; there was, moreover, some superficial effusion, as indicated by the dulness on superficial percussion, weakness of vocal vibrations, and the effect produced by change of position.

On the 24th *sudamina* were observed over several parts of the body. These are not common appearances in rheumatism, though present in the decline of typhus fever. It is a debated point, but they are believed to be generally connected with a debilitated state of constitution. (Dr. J. Taylor.) Thus confirming the remark made by Dr. Williams when beholding the patient's brown tongue. Middle diet was therefore ordered.

On the 30th some anomalous cardiac symptoms presented themselves. When the patient was placed in a recumbent position, the systolic murmur, which had hitherto been heard loudest at the base, was heard loudest at the apex; but on placing him in a semi-erect position was heard loudest at the base, although as before stated the murmur was *aortic*. The explanation of this seems to be, that when in a recumbent position the apex is (during the impulse) much nearer the walls of the chest than the base, which necessarily falls back in consequence of its weight; but when placed in a semi-erect position, it comes nearer to the walls of the chest, and the sound is heard proportionally louder. This circumstance points out the necessity of bearing change of position particularly in mind, when examining the heart. The other slight changes of half an inch or less, in the amount of dulness over the cardiac region, observed on different occasions, especially transversely, and which seemed to bear no relation to the pericarditis, were probably due to more or less engorgement of the heart, a common occurrence after either peri- or endocarditis.

State of urine.—Presented several points of interest also.

From calculations founded on Dr. Day's table, we obtain the following results, which are given in a tabular form :—

Date.	Reaction.	Spec. grav.	No. of oz. passed in 24 hours.	Quantity of urea passed in 24 hours.
June 9 .	Acid	1036	16	101·8
,, 11 .	Do.	1030	32	190·
,, 14 .	Do.	1016	24	99·8
,, 16 .	Slightly acid	1010	60	372·3
,, 18 .	Evening alkaline	—	—	—
,, 19 .	Slightly acid	1020	—	—
,, 20 .	Alkaline	1020	20	125·9
,, 21 .	Slightly acid	—	—	—
,, 23 .	Alkaline	1020	44	285·7
,, 24 .	Do.	1012	56	348·1
,, 25 .	Do.	1015	64	399·
,, 26 .	Slightly acid	—	—	—
,, 27 .	Alkaline	—	—	—
,, 29 .	Alkaline	1015	62	386·6

From which it is observed that as the disease decreased so did the quantity of urea excreted increase.

But the urine was alkaline. That this alkalinity did not wholly depend on the carbonate of soda given internally, is evident from the fact that while he took it *all the while*, it was slightly acid on the 16th, again on the 19th, 21st, and 26th. Hence there was some superadded cause. Was it chronic nephritis, or due to the cantharides given internally, or the blisters employed? This is doubtful. The first blister was applied on the 13th: the urine was not alkaline till the 18th. A blister was applied on the 18th; the urine was acid on the 19th. The cantharides was given on the 19th, and continued till his discharge. The urine, though generally alkaline, was nevertheless after this sometimes acid; nor did the renal symptoms necessarily prove the presence of nephritis. Pain and tenderness, we have already seen, are no indications of actual inflammation in those organs. There was, moreover, no pus observed at any time in the urine; the albumen in it depended on another cause; nor was it most alkaline when most albuminous, but the reverse. Most probably the alkalinity, therefore, was due to neither of these causes, but being but slightly acid, and the heat at the time very intense, the urine was quickly decomposed, and became alkaline.

It will be remarked that, in this case, although the colchicum did not purge, which by some is stated to be the manner in which it does good in rheumatism, it was nevertheless very beneficial.

Causes.—I. Predisposing of the rheumatism.

1. The hereditary predisposition on the father's side.

2. *Age.* The greater number of cases occur between the age of 15 and 25.

3. His sex. Males, according to Dr. Budd, are more liable to this disease in the proportion of 31 males to 14 females.

4. Long-continued exposure to cold and wet.

5. Fatigue.

Predisposing causes of the pericarditis.—This disease appears to be most common between the ages of 15 and 25. In 9 cases published by Dr. Taylor the ages were respectively, 15, 18, 2 of 20, 22, 24, 25, 26, and 47. In seven cases collected by ourselves, the ages were respectively 12, 15, 20, 22, 2 of 25, and 29.

Of the head symptoms.—1. His mother was liable to determinations of blood to the head. 2. He himself was very liable to epistaxis. 3. His sanguine temperament.

Exciting causes.—The exposure to cold—1st, on Thursday the 22d May, and again on the night of the 26th, which probably caused the renal disease, which in its turn, by preventing the due elimination of urea and lithic acid, acted as the exciting cause of both the rheumatism and head symptoms. The same imperfect action of the kidneys, by preventing improper excretion of morbid matters, might so irritate the heart and pleura as to produce the endocarditis, pericarditis, and pleurisy.

Prognosis.—One attack either of rheumatism or albuminuria predisposes to a recurrence of the disease. Thus it is very probable he may have relapses of both these diseases, and then in the end, more especially by the deposition of cacoplastic matters in the kidneys, the foundation to mortal disease may be laid. Still, with care, and avoiding exposure to cold or excess, the prognosis is favourable. The obstructive disease of the aortic valve was not cured. Hypertrophy of this organ, with all its attendant evils, may be expected. The disease not being necessarily fatal, with care his life will not necessarily be shortened.

UNSUCCESSFUL ATTEMPT AT POISONING WITH POUNDED GLASS.

We make the following extract of a letter from our intelligent correspondent, W. K. Bowling, M.D., of Adairville in this State, dated Oct. 15th, 1848:—

"Mrs. C. of this village, in her attentions to her child 9 months of age, after a discharge from its bowels, discovered some particles of glass adhering to its nates. Becoming alarmed, she sent for my partner, Dr. Poor, who, upon his arrival, had the fæces washed, and procured more than a teaspoonful of powdered glass. He gave the child a dose of castor oil, and superintended in person the washing of the discharges as long as any glass was found in them, and procured by weight *eighty grains!* The glass had been irregularly powdered, and exhibited fragments of every size, from a grain of wheat to the finest sand. The child showed not the slightest indisposition, and remains perfectly well up to the present time (five days) since the last glass was discovered in its discharges.

"I have thought this case worthy of preservation for two reasons: 1st, because physicians rarely have an opportunity of witnessing the effect of pulverized glass upon the gastro-intestinal mucous membrane of man; 2d, because the case appears to demonstrate that this substance does not exercise any deleterious influence."—*Western Journal of Medicine and Surgery.*

Original Communications.

SOME REMARKS ON ASPHYXIA,

MORE ESPECIALLY AS TO THE CAUSE OF THE ACCUMULATION OF BLOOD IN THE RIGHT HEART AND PULMONARY ARTERY, AND THE EMPTINESS OF THE PULMONARY VEINS AND LEFT HEART.

By Alfred Eccles,
Surgeon, Tunbridge Wells.

Phenomena in animals whilst drowning.—If an animal is drowning, the appearances are as follows:—Immediately after immersion, if his lungs are full, he expires a portion of their contained air, and makes an attempt at inspiration: the glottis firmly and spasmodically closes on the water touching it, and a second expiration is made, accompanied by violent struggles; afterwards, vertigo, loss of consciousness, and repeated convulsions, ensue, followed by very forcible expirations, which contract the chest to the utmost, and then convulsive inspiratory efforts are made: they fail, but a small quantity of water is taken into the trachea, where it mixes with the frothy mucus already poured out by the intensely congested bronchial membrane; tremors of the limbs, followed by relaxation of the sphincters, and, last of all, cessation of the heart's action, betoken death.

Post-mortem appearances.—On examination after death the lungs are found collapsed; the venous system and right heart gorged with venous blood, which likewise distends the pulmonary arteries; the pulmonary veins and left heart comparatively empty, but containing a small quantity of perfectly black blood, which is also found in the coronary vessels, those of the brain, &c.

Theory.—The access of air being prevented, the blood in the pulmonary capillaries is not oxygenated, but by the combined action of the vis à tergo of the right heart, the strong expirations, and the sorbent and propelling action of the left heart, is passed on to the general circulation. Its first effect through the coronary vessels on the heart is marked by the tumultuous action, and on the brain by vertigo; but it soon causes depression of the heart's action, with loss of consciousness and convulsion, by its circulation through the nervous masses. It weakens also the respiratory as well as all other muscles, but still circulates (by the same means, aided by the violent action of the right heart and any inspiratory efforts), though more slowly. The *strong expirations* after the chest is once much contracted, dam it back to a great extent in the systemic veins, and therefore a deficient quantity as well as bad quality of blood is supplied to the left side of the heart and general circulation. The fibres of the heart, as well as those of all other muscles, are thus still further weakened, and the unstimulated, if not poisoned, nervous system also tends to increase the depression. When the chest has been contracted to its utmost limits by the strong expirations (which not only empty it of air, but in a great measure prevent the ingress of blood from the large veins) *forcible inspirations* follow; but the glottis is firmly and spasmodically closed to prevent the entrance of water: therefore the vacuum which would otherwise be formed is filled partly by the abdominal viscera and partly by the blood previously accumulated in the great systemic veins being drawn into the chest. This blood is passed into the right side of the heart chiefly by these inspiratory actions, for the sorbent power of the right heart is much weakened, as also is its propellent power: but this latter helps the inspirations to pass the blood on into the pulmonary arteries. A small quantity only is passed on through the pulmonary capillaries to the left heart; as the inspiratory actions not continuing, and the chest being in great part filled by the abdominal viscera, and the blood already drawn into the thorax, the vis à tergo of the weakened right heart, unaided by any sorbent action of the left, is unable to overcome the obstacle presented by the increased surface of the numerous capillaries; it being a well-known law that it requires a much greater force to drive a given quantity of fluid with the same velocity through a great number of small than through a few large tubes. The obstruction at the pulmonary capillaries is then *strictly mechanical*, and not the result of any peculiar vital action in them: and the

action of the right heart, though extremely weak, continuing, tends still to increase the accumulation in the pulmonary arteries; whilst that of the left ceases sooner, possibly because a very small quantity of black blood reaches its cavities, which are found contracted but not quite empty.

Haller's theory.—Haller imagined that the arrest of the respiratory movements is the cause of the cessation of the circulation in death by asphyxia; and this great physiologist was not far from the truth, for it is one of the chief causes; but he was not equally happy in his explanation, for he believed that the circulation through the pulmonary capillaries is arrested because they are compressed by the *collapse of the lungs produced by the expiratory efforts.** He overlooked the succeeding and final inspiratory efforts, and over-estimated the power of the preceding expirations; for if *they alone* are capable of *arresting* the circulation in the lungs by pressure, no blood should be found in any of the pulmonary vessels, whereas the pulmonary arteries were distended. That venous blood will pass through the capillaries of the collapsed lungs of an animal is proved by the following experiment, which I have repeated several times with similar results:—

Experiment A.—A rabbit was secured, and a free opening made into each pleura. The air rushed in and out at each inspiratory and expiratory effort, and in a few minutes the animal was dead.† On opening the chest, I found the lungs completely collapsed; the pulmonary arteries and *veins* contained a considerable quantity of black blood, and the *left* cardiac cavities very nearly, if not quite, as much as the right. The systemic veins were distended, but the arteries did not contain much blood. Now, according to Haller, no blood should have been found in the pulmonary *veins*, for the lungs were completely collapsed. He therefore cannot be right in supposing that the expiratory movements prevent the passage of blood through the pulmonary capillaries, though doubtless they considerably impede the ingress of blood from the great systemic veins to the pulmonary circulation.

Goodwyn's theory.—Goodwyn* suggested that the venous blood being an insufficient stimulus to the *left* clavicles of the heart, the circulation comes to a stand. Unfortunately for his idea the blood may be allowed to flow of perfectly venous character from the carotid of a strangled dog, as was remarked by Bichât; and the left cardiac cavities, instead of being distended, as would be the case were he right, are found comparatively empty.

Bichât's theory.—Bichât† believed that the venous blood circulating through the coronary vessels weakens the individual fibres of the heart, and that this is a chief cause of the stoppage of the circulation.—"As far as the heart is concerned, the cause that gives rise to the stagnation of the blood is the enfeebled condition of the right auricle and ventricle, which being permeated by the black blood are no longer capable of impelling this fluid with sufficient energy towards the lungs, and consequently of overcoming the resistance that it meets with there."‡ It is admitted by all, that venous blood is capable for a time of maintaining muscular power, though in a much less degree than arterial; still for a time the heart's action is vigorous, and though gradually weakened, if the cessation of its action were the sole cause of the stoppage of the circulation the heart should be found full on both sides, as in death by asthenia, or "death commencing at the heart." Moreover, the action of the left heart ceases before that of the right, and yet the left is found nearly empty, whereas the right is distended. Bichât, aware of this, supposed that there was obstruction to the circulation through the pulmonary capillaries, by reason of the circulation of the venous blood through the bronchial arteries weakening the action of the lungs. But that the obstruction in the pulmonary capillaries depends little, if at all, upon this cause, is proved by experiment A, already quoted, in which, though perfectly venous blood was supplied through the bronchial arteries, the circulation continued through the pulmonary capillaries, as proved by the quantity of blood found

* Erichsen, p. 4.
† Repeated April 24 in a large dog with like results.

* Erichsen, p. 7.
† Erichsen, pp. 7 and 8.
‡ Erichsen, p. 8.

in the left differing little, if at all, from that in the right heart, and the pulmonary veins also being found distended. The same experiment is equally fatal to the theory of the obstruction in the pulmonary capillaries advocated by Dr. Kay and others, viz. that "in consequence of the non-arterialization of the blood the minute pulmonary vessels which usually convey arterial become incapable of transmitting venous blood, which consequently stagnates in the lungs;" and to that of Mr. Erichsen, which is the same as Dr. Kay's, save that he explains that by the "minute pulmonary vessels he means the smaller ramifications of the arterial system, including of course the pulmonary veins, as conveying red blood." Were their theories true, the obstruction in the minute pulmonary vessels should undoubtedly exist, as in ordinary cases of asphyxia; but it does not, and therefore we must seek some cause present in ordinary cases of asphyxia absent in this experiment, or *vice versâ*, to account for the usual accumulation of black blood in the right heart and the pulmonary arteries, and the comparative emptiness of the pulmonary veins and left heart. Moreover, in Mr. Erichsen's first experiment B, he imitated the respiratory movements in a terrier with a syringe capable of holding eight ounces of air, and adapted to its trachea: the *same* air was used throughout, and at the fourteenth minute the heart's action ceased entirely. "The heart was found much distended; on both sides coronary arteries and veins quite black; the pulmonary vein and artery were fully distended, and perfectly black." "The difference in the quantities of blood found in the opposite sides of the heart was not by any means so great as usual; the left side containing comparatively much more blood than in ordinary cases of asphyxia—indeed, very nearly as much as was found in the right cavities." Mr. Erichsen has repeated this experiment many times with similar results, which accord also with the observations of Kite and Coleman. Here, again, there could have been but little obstruction in the minute pulmonary vessels, and they must for some time have transmitted perfectly venous blood; therefore some cause again absent in ordinary asphyxia present in this, or *vice versâ*, must be sought to account for the differences found on examination of the animal after death. We have, then, two experiments, A and B, in which the appearances after death are similar, and both differing from those found in ordinary asphyxia. In all three the blood was found perfectly venous after death, but in A and B the quantities on the right and left sides of the heart differed but little, whilst in ordinary asphyxia much more is found in the right than on the left side. In all equally, venous blood was supplied to the heart, nervous centres, and bronchial arteries, therefore the differences found could not depend on either the heart, nervous system, or the lungs. In A, the respiratory movements had no power, because the air rushed in and out of the openings made into the pleuræ. In B they were continued artificially, and in regular order; but in ordinary asphyxia the respiratory movements are very irregular; inspirations being impossible, the expirations being very forcible and frequent, till at last the chest is contracted to its utmost limit, when forcible attempts at inspiration ensue. May we not conclude, then, that the irregularity of the respiratory movements, to so great a degree as is the case, is the principal, if not the sole, cause of the accumulation of blood in the right heart of the pulmonary artery, and that the reason such was not the case in experiment A, was because the respiratory movements, though regular, could exert no power on the lungs by reason of the opened pleuræ; and, in experiment B, because the respiratory movements were kept up regularly by artificial means? That respiration has powerful mechanical action in aiding the circulation of the blood, is proved by the observations of Haller, Magendie, and Poiseuille. They found that "the strength of the blood's impulse is increased during expiration, in which the chest is contracted, and the large vessels in consequence compressed."* "The experiments of Sir David Brewster, more accurately performed by Poiseuille, prove that during inspiration the venous blood of the body is drawn into the venous trunks of the thorax."

Mr. Erichsen† also found that it was

* Müller, p. 235.
† Erichsen, p. 42.

possible to renew the circulation of the blood through the lungs in an asphyxiated animal, in which the heart had ceased to act, by means of artificial respiration, though he never succeeded in restoring the heart's action after it had once entirely ceased. This renewal of the circulation Mr. Erichsen supposes is carried on chiefly by the "*vis à tergo* influence of the tense pulmonary artery forcing the blood through the pulmonary veins, after the obstacle which exists in them has been removed by the aeration of the blood contained in them." I apprehend it depends entirely on the mechanical assistance afforded by the mechanical acts of inspiration and expiration artificially performed, and that the aeration of the blood has little or nothing to do with the matter. In this experiment the artificial respiration was commenced after the chest was opened and the lungs were collapsed; therefore, when inspiration was imitated by injecting air, the effect would be immediately the reverse of ordinary inspiration. The pulmonary capillaries being compressed, would tend to drive the blood in them onwards in the course of the circulation, the valves preventing its retardation; while the artificial expiration, from their sorbent action, would tend to draw the blood onwards from the right heart, &c. That such was the case was proved by the observation of Mr. Erichsen himself, of the blood "welling out in a fuller stream from a punctured pulmonary vein each time the lungs were distended with air."*

The action of the venous blood circulating through the nervous masses is sufficiently marked by vertigo followed by convulsion and profound coma. This, of necessity, greatly embarrasses the heart, and must therefore be one of the efficient aiding causes of death by asphxia. That coma from any cause is sufficient to embarrass the heart, is proved in cases of injury to the brain, &c. That it is not the sole cause, was proved by a direct experiment of Mr. Erichsen. He caused the brain of one dog, A, to be supplied with arterial blood from the carotids of two others, B and C.

A.'s vertebral arteries were compressed, his jugular veins opened, and his trachea tied. A quantity of blood flowed from his jugulars, so he clearly did not die of plethora, nor, as the examination proved, of anæmia, but he died in about the same time as asphyxiated dogs generally do.

It appears, then, that several causes contribute to bring about the cessation of the circulation in asphyxia.

First.—Deficient quantity as well as bad quality of blood supplied to the heart's substance, as well as that of all other muscles, weakening their action.

Second.—The circulation of venous blood, and that in deficient quantity, through the nervous centres, depressing the heart's action, and the powers of life generally.

Third.—The irregular and powerful expirations, followed by ineffectual, but powerful, inspiratory efforts, instead of alternate inspirations and expirations, as in health.

Lastly.—The weakened heart, being unable to pass the blood brought into the chest by the final inspirations through the pulmonary capillaries, on account of the mechanical obstacle arising from the greatly increased surface presented by them over that of the pulmonary artery.

Comparative anatomy.—In the cetaceans, whose habits of life require special provision to be made, in order that they may continue for some time under water, there are large arterial plexuses, acting as reservoirs of arterial blood, as well as very large venous sinuses in the liver guarded by an *especial muscle*,* capable of entirely arresting the circulation through the inferior cava. This was pointed out to me in two preparations at the English College of Surgeons by my friend Mr. Hulme. The evident use of this muscle to control, when necessary, the passage of the venous blood through the inferior cava, leads me to ask whether the action of the forcible expirations in animals, when drowning, may not be a wise provision to sustain life somewhat longer, as they, like the special muscle in cetaceans, prevent in great measure the circulation of venous blood which is unfit for the purposes of life, and,

* Erichsen, p. 5.

* This muscle is on the chest side of the diaphragm, the muscular fibres being very strong and capable of acting as a *complete sphincter* to the *large* cavities or sinuses in the liver, in which the inferior cava seems, as it were, lost.

should the animal be fortunate enough to regain access to air, the inspiratory effort not only supplies his air-cells with air, but likewise assists the right heart, by drawing the blood into the chest, and then being followed by expirations and inspirations in regular order, the oxygenized blood is supplied to all parts and reinvigorates them.

The study of the anatomy and physiology of the cetaceans and diving animals, would, I doubt not, throw much valuable light on our knowledge of asphyxia.

Tunbridge Wells, 1849.

CLINICAL OBSERVATIONS ON SURGERY.

By R. H. Meade, F.R.C.S.

Bradford, Yorkshire.

Case I.—*Inguinal hernia, in which inflammation and suppuration of the sac occurred from a blow, and produced symptoms of strangulation. Case complicated by the presence of an enlarged gland. Operation, followed by intestinal fistula.*

July 26, 1848.—Daniel Stephenson, a small made, and rather delicate man, aged 35, received a severe blow on the lower part of his abdomen and groin, from a large stone which he was lifting into a cart. He immediately felt severe pain and sickness, but contrived to walk home, a distance of four miles. The pain and sickness continuing, he sent for a medical practitioner residing in his neighbourhood, who said that there was not much the matter, and no medical treatment was adopted for two days. I first saw him in the evening of the 28th, and found that he had had frequent vomiting since the reception of the injury, and that there had been no action of the bowels.

He complained of constant and severe pain in the abdomen, which was tense and tender to the touch; the chief pain and tenderness being in the right inguinal region. His face was collapsed and anxious; his eyes suffused; tongue brown and dry; pulse small and hard, but not very quick.

The vomited matters were green and bilious, but had no fæcal odour. On examination in the seat of hernia, a small tumor was found in the right groin just external to the inguinal canal, which was hard and unyielding to the touch, and felt like an enlarged absorbent gland. On being questioned, he said that he had noticed this tumor for two or three months, but as it had given him no inconvenience he had paid little or no attention to it. It was very tender to the touch, and thinking that it might be a hernia I applied pressure with my fingers with a view to its reduction. On so doing it appeared to give way partially, but a small hard substance remained about the size of a walnut, which was very tender and quite incompressible. On removing the pressure the swelling speedily returned to its original size, about that of a hen's egg.

The symptoms indicating peritoneal inflammation (though at rather an advanced stage), and the pulse not being more than eighty to the minute, I bled him to about twenty-four ounces, when he became rather faint. While in that state I again tried the taxis, but with no better success. I now ordered a copious enema to be given him, and a dose of calomel and opium, to endeavour to quiet the stomach, and left him until the following morning. I found him early on the 29th, after an interval of eight hours, much in the same state, though more depressed: he still continued to vomit, and the bowels had not acted, though he had had two injections, both of which had been retained. The blood which I had taken was thickly buffed; the pulse was 90 in the minute, and did not indicate so much debility as the general aspect of the patient, and the appearance of the tongue (which was brown and dry) expressed. The state of the tumor was much the same, and a further attempt at reduction being unsuccessful, after trying the inhalation of chloroform, at the suggestion of my friend Mr. Holmes, who accompanied me, I determined to cut down upon the swelling, and examine its nature.

After dividing the integuments, superficial fascia, and the other coverings, which were rather thick and dense, I came to an enlarged absorbent gland situated just without the external abdominal ring, and lying immediately over the spermatic cord, which, on being cut into was found to contain a small cavity filled with thick yellow

pus. On dissecting carefully round this diseased gland, no hernial sac was found external to the inguinal canal, but by pressure over the canal a feeling of fluctuation was perceived; so I proceeded to lay it open by cutting through the aponeurosis of the external oblique muscle. A distinct hernial sac was now exposed filled with yellow fluid, the colour of which was visible through the membrane forming the sac. On its being opened, full half a pint of fœtid, thin, sero-purulent fluid, mixed with flakes of lymph, spirted out with considerable violence, so as to fly quite across the room, and continued to flow long after the sac itself was empty, clearly showing that it came from the abdominal cavity. On laying the sac open, after all the fluid had escaped, it was found quite empty, and the finger when passed upwards could be freely introduced through the internal ring into the abdomen, and passed round the unattached portion of the cæcum. The neck of the sac was very large and patent, but at its inner border something could be felt like a small portion of intestine attached in that situation, and as the inguinal canal was not sufficiently laid open to bring the inner ring into view, I cut through the lower margins of the internal oblique and transversalis muscles, which were thick and fleshy, for the extent of half an inch, and slit the hernial sac freely up to the neck, when the internal ring was fairly exposed. A small portion of small intestine was now seen firmly attached to the inner side of the sac: it was quite soft, and devoid of solid contents, and not at all strangulated, the finger, as I have before remarked, passing with facility on its outer side into the abdominal cavity. The intestine was of a dark mahogany colour, and rough on its surface, being coated with lymph. On touching it with the forceps the coats appeared to be quite soft, and apparently disorganized, but in consequence of the layer of lymph with which it was covered it was difficult to say whether it was actually in a state of mortification. The internal surface of the hernial sac, and the external surface of the portion of displaced intestine, presented exactly the same rough appearance which is met with in patients who have died of severe peritoneal inflammation, and the fluid which escaped had also the same character and abominable fœtor as that effused in such cases.

The intestine being in this state, I thought it better not to attempt to break the adhesions to the neck of the sac, but I simply brought the edges of the wound together with stitches, and covered it with a compress of wet lint.

After the operation the man seemed excessively weak and low; I therefore directed a little gruel flavoured with brandy to be given him frequently, and a grain of opium in a pill to be taken every two hours. In the afternoon when I saw him again he was freer from pain, but there had been no action of the bowels, and the sickness still continued, with incessant hiccup. I then directed that he should take the opium every hour.

30th.—The opium had not had the effect of procuring much sleep, but my patient said that he was now quite easy; there was also very little tenderness over the abdomen. The sickness and hiccup still continued, but were not quite so frequent and troublesome. The tongue continued brown and dry. The pulse was a little under a hundred, soft, and regular; the bowels had not acted. I ordered him to continue the opium, as the best chance of his recovery seemed to consist in keeping the whole system in a perfectly quiet state until the bowels should recover from the state of debility to which they had been reduced by the inflammation. The wound was free from inflammation, but its edges showed no disposition to unite. A little fœtid discharge continued.

31st.—This morning he was decidedly better; there was no pain nor tenderness in the abdomen, and the distension was less. The bowels had not acted, but some flatus had passed *per anu*, which gave him relief. The sickness was much less frequent, and a little food had remained on his stomach. The pulse was 84, and the skin warm and moist. He was directed to continue the opium, but at longer intervals.

August 1st.—The bowels had acted spontaneously on the previous night, and there had been no vomiting since. He had had two motions again that morning, and in the latter there was a little mucus tinged with blood. He

was very weak and feeble; so I ordered him a little wine two or three times a day, and rather more food, such as sago and arrow-root with milk; the opium only to be taken at night. The wound looked free from inflammation, but the edges were sloughy, and there was a little fœtid dark-coloured discharge from it.

3d.—I found that he had not been quite so well either that morning or the day before; the bowels continued open, and there was no pain in the lower part of the abdomen, but the stomach was irritable; he had vomited several times, bringing up a good deal of bile, and he had pain and tenderness in the epigastric region, with a red and aphthous tongue. The pulse was slow and quiet. A blister was ordered to be applied to the epigastrium, and a mixture taken containing a little creta and hydrocyanic acid.

4th.—He was rather better to-day, the stomach being less irritable. The bowels continued quite open, the motions being thin and watery, but containing no blood. There had been a considerable quantity of dark sanious fœtid discharge from the wound for several days, but since yesterday this had been mixed with yellow fæculent looking matter, which showed that the intestine had given way. The matter, however, though fœtid, had not a fæcal smell.

From this date my patient steadily improved. The irritation of the stomach gradually subsided, the bowels became regular, and the appetite good. The wound became clean and healthy, the sac partly sloughed away, and the edges and bottom of the wound assumed a healthy granulating appearance. The discharge of fæculent matter ceased for above a week after its first appearance; and I began to think that I had been mistaken as to the perforation of the bowel, but on the 13th or 14th of August it returned again, and a decided intestinal fistula was established. The wound soon healed up, with the exception of a small place at its upper part, and there prolapsus of a portion of intestine took place, about the size of a nutmeg; it was of a florid red colour, looking like a mass of healthy granulations. By gentle pressure with the finger it could be returned into the abdominal cavity, though it remained adherent at the edges to the wound. The discharge was much more abundant when the patient was in an erect position; and sometimes when I removed the dressings it escaped like a figured motion from a child, being consistent, though soft, and coming away in a piece about the diameter of a tobacco-pipe. The discharge was of a pale yellow colour, homogeneous, and pultaceous in consistence, and rather slimy or fatty looking, but perfectly free from odour. The disagreeable smell which the discharge possessed ceased as soon as the wound became clean, and evidently depended on the sloughy state of the parts, and not on the presence of the fæcal matter. The intestinal matters were acrid, and produced excoriation of the skin in the neighbourhood of the wound. From the absence of fæcal odour in the discharged matter, it evidently escaped from the upper portion of the intestines, probably from the jejunum, or upper part of the ilium. I examined a portion of the discharge with the microscope, and found that it consisted of the constituents of chyme mixed with bile. I distinguished in it mucus corpuscles, colourless blood (chyle) globules, epithelial cells of various forms, many being irregular in shape, and granular (coloured with the colouring matter of the bile), numerous regular, smooth, transparent, rhomboidal scales of cholesterine, and a few oil-globules.

The man's general health being now (August 26th) good, and the bowels acting naturally, the only indication was to close the opening in the gut; and to effect this purpose I applied a graduated compress of dry lint on the protruded portion of intestine, and fastened it with a T bandage, so as to keep up a little pressure over the wound, and prevent the escape of the intestinal contents. This treatment had the desired effect: all discharge, except a slight oozing of liquid, ceased; the excoriation of the surrounding skin was prevented, and the wound speedily healed up with the exception of a very small place, where a fistulous opening still communicated with the intestine.

This continued open for a very long while, and could not be induced to heal by any mode of treatment. Three months after the operation it would just admit the end of a small probe,

and produced scarcely an inconvenience. There was only a very slight discharge from it, and it did not prevent the man from taking exercise. He kept a small piece of dry lint, dusted with powdered chalk, on the opening, over which he placed the pad of his truss. His general health was very good; the bowels were quite regular; and the man had got fat. I saw him again on the 1st of February, 1849, and found that the fistulous opening still remained, though it was then very small, being no more than a pin-hole aperture. He was able to follow his usual occupation, but required a truss with a very large pad, the hernial protrusion being very large, the operation having weakened the abdominal walls.

This case presents several points of interest. In the first place—What was the exact cause and nature of the symptoms? were they produced entirely by the inflammation of the sac and contiguous parts of the peritoneum? or where they partly or wholly caused by incarceration of a portion of intestine in the hernial sac by the pressure of the effused pus? The most probable solution of the case seems to be the following:—The man had an inguinal rupture, and a small portion of its contents were irreducible. The blow produced violent inflammation of the sac, which was propagated to the adjoining portion of the abdominal cavity. This being neglected ran on to suppuration, effusion of lymph, and mortification. The symptoms (such as pain, sickness, and constipation) in the first instance were due to the inflammation, there being no strangulation of the bowel; but after purulent effusion had taken place, the hernial sac was distended, and the irreducible portion of the intestine was thus pressed on, its canal obstructed, and the violence of the symptoms increased.

Another point of interest in this case was the presence of an enlarged gland in the groin. Had it not been for this diseased gland, the existence of a hernia at all might have escaped detection. The portion of intestine attached within the mouth of the sac was so small that it could not possibly have been felt through the abdominal muscles; and though the fluid contained in the inguinal canal would have been perceptible by a very careful examination, yet it might very easily have been overlooked.

I find several cases recorded in which a hernia and an enlarged gland have been found to exist together, and several others in which a hernia has been mistaken for an enlarged gland; but it is very properly considered a rule in surgery to operate in all cases where decided symptoms of strangulation exist, and where a tumor is found in the usual seat of either femoral or inguinal hernia, whatever may be the characters of the tumor; for should the surgeon cut down on a merely glandular swelling he can do but little harm, but should he omit to operate for a hernia, under the idea that the swelling is merely an enlarged gland, he will probably sacrifice the life of his patient. A case is related by Mr. Else,* in which he found a portion of intestine strangulated in the groin, behind an enlarged gland, in a patient who died the third day of the strangulation. If he had followed the above rule his patient would probably have been saved. Sir A. Cooper says,† "I once saw a lady, with Mr. Owen, who had suffered from symptoms of strangulated hernia for nine days, and had been treated for inflammation of the intestines, as she had not mentioned the existence of a swelling in her groin. Mr. Owen discovered this swelling, and in consequence requested me to visit the patient, at the same time informing me that the tumor had not the feel of a hernia, but that he supposed it must be one from the symptoms. Upon examining the part, I found an enlarged gland, about the size of a walnut, very hard and moveable; but beneath this gland, and separate from it, was an elastic tumor, which I succeeded in reducing by the employment of the taxis; and this relieved the patient from all the symptoms of strangulation."

[To be continued.]

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 11th October, 1849:—William Parry, Montgomeryshire—Robert Growse, Bilderton, Suffolk—James Harvey Lilley, Wisbeach—Samuel Brown, Bradford, Yorkshire—John Seymour, London.

* Medical Observations and Inquiries, Vol. iv. p. 355.

† Lectures by Tyrrell, Vol. iii. p. 91.

CASE OF

AXILLARY ANEURISM—LIGATURE UPON THE SUBCLAVIAN ARTERY IN THE THIRD PART OF ITS COURSE—CURE.

By D. W. Crompton, Esq., F.R.C.S.
Birmingham.

Charles Young, aged 49 years, unmarried, a twin, cabinet-maker, a native of Strathmore, Scotland, was admitted into the General Hospital, Birmingham, March 23d, 1849.

Previous history.—His father and mother are living, and also his twin brother, who was always the stronger and healthier person. The patient is a small man, has suffered much from being unfortunate in business, and has frequently been in want of the common necessaries of life. He says he is not given to drinking: has never had syphilis, and has led a pretty regular life.

About two years ago he perceived a lump in the right axilla about the size of a walnut. It did not give him any pain, or cause him the least inconvenience, for eighteen months. He then began to feel pain in the arm, which he attributed to rheumatism, and though in the habit of frequently feeling the tumor, he never up to that time perceived any pulsation in it. About seven weeks ago, according to one account he gave of himself, (but at an earlier period, according to another account) he found the tumor considerably enlarged, and a distinct pulsation was to be felt in it. The pain becoming constant, he was obliged to relinquish work, and applied to the Dispensary at Dudley, where he was seen by some of the medical gentlemen of that town, from one of whom—Mr. Houghton—I received a note, informing me of the case, and offering to send the patient to the General Hospital in Birmingham.

25th.—His present condition is that of a person suffering from want of good nourishment; countenance pale and anxious; tongue clean and moist; bowels regular; pulse 84, soft, weaker on the right side than on the left; respiration natural; no apparent disease of the heart or aorta; lungs also sound, as well as the other viscera. Urine, sp. gr. 1022, healthy; skin moist.

On examination of the chest, the shoulders are high naturally, and the head bent somewhat forwards; from behind, the scapula on the right side appears slightly thrown outwards, and is a little higher than the left. A tumor, in which pulsation is evident to the sight, is seen below the right clavicle; the veins of the arm and forearm are rather more prominent than in the left arm, and they are perceived ramifying over the tumor rather more increased in size. The tumor itself extends from the axilla, where it appears about the size of an orange, and in part firm, as if it contained a clot, though pulsation is quite evident. It passes under the insertions of the pectoral muscles, beneath the clavicle, to within about three inches of its sternal extremity; the tumor is also to be felt pulsating above the clavicle, though not projecting upwards, and by pressing the finger deep backwards towards the scapula, pulsation can also be perceived, so that the size of the aneurism, taken as a whole, is considerable.

The portion under the clavicle is soft, and can be emptied in a great degree by firm pressure, and all pulsation can be instantly stopped by pressure on the artery as it passes over the first rib. I therefore think that the disease began in the axilla by rupture probably of some of the coats, and the artery has since expanded like a bottle towards the heart, otherwise I should imagine that the clot would be most firm and most easily felt furthest from the opening in the artery, which is not the case. The strong heaving expansion of the tumor is very evident, but there is hardly an appreciable thrill or murmur. The external jugular vein, more prominent than usual, crosses over the middle of the space where an incision would be made in taking up the subclavian artery. I ordered him milk diet, and his bowels to be regulated as occasion may require. The tumor passes up so near to the external edge of the scaleni muscles, that supposing the artery to be expanded, and that this part of the tumor is the artery and *not* a sac, the chances of succeeding in an operation are not encouraging: there *is*, however, room to pass a ligature round the artery, between the tumor and the muscles.

After waiting some time to improve his health, and having told him the whole of what he had to depend upon, on the 18th of April he suddenly made up his mind to have the operation performed. He was brought into the operating room, and laid on his back, with his head and shoulders somewhat raised; chloroform was not administered, as I thought if it produced spasms, or did not act favourably, the man would be much more unmanageable in a half conscious state, than if he had his reason unimpaired. He bore the operation almost without exhibiting any signs of pain: it lasted, I was informed, very nearly twenty minutes.

Operation. — Having with my left hand drawn down the integuments of the neck, I made an incision into them upon the clavicle, extending from the outer fourth of the bone, about four inches long, slightly curving upwards as I approached the sterno-mastoid muscle; then, having removed my left hand, the integuments passed upwards so as to be nearly an inch above the clavicle. I then continued the dissection on the inner side of the external jugular vein, which crossed my incision exactly on the spot where I intended to place the ligature on the artery. The vein was held to the outer side by a retractor, and I did not separate the integuments from the outer side of the vein, lest by too great isolation from its immediate connections I might occasion inflammation and obstruction of the circulation through it. I cautiously continued my dissection through the deep fascia: the subclavian vein and integuments on the lower side over the clavicle were held out of the way by another retractor. From the thinness of the patient I expected to have seen the sheath of the artery almost immediately, but such was not the case, as about half an inch of fat intervened before I saw the lowest fasciculus of the cervical plexus of nerves in its sheath, and the proper sheath of the artery: the latter I found difficult to open with the silver directors I had in my hand, as it bent in my attempt to scratch through it. Having done so, I found some little difficulty in getting the aneurismal needle under the artery, but by bringing the handle parallel with the clavicle, and with the curve from below upwards, it passed pretty readily, and with scarcely any disturbance of the artery. I met with no vein to embarrass me, and I saw nothing of the subclavian or internal jugular veins: the two or three smaller ones that crossed the space I avoided without much difficulty, by using my finger and the director to separate the deep cellular substance. I have no doubt I owe much of this facility to the use of the broad retractors, which were steadily held for me by Mr. Baker, and Mr. O. Pemberton, the house surgeon: I was also assisted by my former master, and present colleague, Mr. Wood.

It will be seen in this case that the man being thin and rather round-shouldered, I had enough space for my purpose, by making my incision nearly in a straight line, and if a more external wound had been necessary, I would rather have made a curved one than another, to fall perpendicularly into the horizontal one, for I have an objection to an angle of skin, there being, I think, always some difficulty in keeping such a wound in good apposition. I might have facilitated the dissection of the deep parts by a more free division of the deep fascia, but as I knew the sac to be very close to the point of ligature I was anxious that the coverings should be disturbed as little as possible. I do not think that more than half an ounce of blood was lost, and tying the artery did not produce an expression of pain. The pulsation in the tumor and radial artery ceased immediately on tightening the ligature, which was made of fine strong whip-cord. The man was carried to bed, and laid on his back, his head and shoulders a little raised, and the arm and fore-arm raised on pillows to a level with the anterior part of the chest, the arm being placed horizontally from the body, with a view of diminishing any tension on the artery or parts concerned: the whole up to the shoulder was enveloped in cotton wool. The edges of the wound were brought together by a few sutures, and a pad of lint lightly laid over it by strappings.

9 P.M.—He complains of no pain, and he has felt none since the operation. Tongue clean, and moist. Pulse 82, soft; has passed urine freely.

2d day.—Complains of some pain in the loins, and a numbness in the arm. Pulse 80. Dover's powder at bed-time. On pressing the veins visible on the back of the hand from above down-

wards, the blood is seen slowly to return towards the heart. Temperature of the right arm, which is enveloped in cotton wool, 96° F.; of the left, 94.

April 20th.—The Dover's powder made him sick in the night; to take Acid.Hydrocyan. ♏iij.; Haust.efferves. ℥j. if the vomiting returns. The wound discharges healthy pus round the ligature; most of the rest appears to be healed. A common enema to be administered, as the bowels have not been moved.

22d.—Bowels moved three times. Pulse 90, soft.

24th.—Is very comfortable. Pulse 84. No pulsation in the radial artery. The tumor in the axilla, and also under the clavicle, is smaller and much firmer than before the operation.

26th.—Slight radial pulsation is said to be felt in the right wrist, but I cannot feel it. Wound looks rather irritable; to be dressed with water dressing only. The milk diet has been continued at his own request.

May 3d.—Some pulse is said to be perceptible in the artery at the wrist, but, as before, I cannot satisfy myself of the fact; the blood in the veins evidently returns towards the heart more rapidly after pressure.

6th.—He complains of some slight tenderness on pressure on the tumor beneath the clavicle, and there is fluctuation to a certain extent to be felt in the sac. The right arm is considerably less in size than the left, and the ends of the fingers are beginning to have somewhat of a clubbed appearance. The ligature came away at the evening dressing of the wound, being the 19th day.

8th.—The irritation about the wound has subsided; there is slight oozing of dark-coloured fluid from the wound on pressing the sac. The tumor is much diminished, and fluctuates very distinctly.

10th.—Yesterday and to-day a considerable quantity of the dark fluid, which is evidently altered blood, has escaped from the wound, and more can be obtained by pressure on the sac. His general health is improved; he takes meat daily.

11th.—He has a harsh noisy cough, but he sleeps well. What I suppose is the supra-scapular artery can be felt crossing the neck above the wound, and it appears to be enlarged, and in the axilla there is an artery passing over the tumor, going down the inside of the arm.

13th.—The tenderness increases on pressure upon the sac, and there is some constitutional disturbance, so as to make it almost certain that suppuration of the sac is taking place.

16th.—Pus of a healthy character was discharged from the wound, which is now only a fistulous communication with the sac. The discharge of the dark fluid is also much increased, so that the water dressings are renewed six or seven times a day.

25th.—Half a pint of ale daily.

26th.—Mr. Pemberton was called at six in the morning, on account of bleeding, which Mr. P. informed me was of arterial hue. I was sent for to see him, but when I arrived the bleeding had ceased, being only perhaps to the amount of an ounce, and it never recurred.

All his stimulants were taken away, and he was ordered—Liq. Opii sed. ♏xxxv.; Tinct. Digitalis, ℥ij.; Liq. Ammon. Acet. ℥ij.; Aq. ℥vj. M. sum. ℥j. 4tis horis.

30th.—Is so much improved that he is allowed a pint of beer daily.

June 6th.—The suppuration in the sac is very copious, but at the same time the tumor is much diminished in size. He is become much emaciated.

12th.—Is much weaker; pulse 74, weak. To take two glasses of wine daily, and half a pint of beer; also—℞. Tinct. Cinchonæ, ℥ss.; Tinct. Aurant. ℥ss.; Acid. Nitric. Dil. ℥ij.; Decoct. Cinchonæ, ℥vij. M. sum. ℥j. ter die.

26th.—I had him removed into another large ward for change of air. The suppuration goes on, and though very weak he gets into the air daily.

28th.—I opened the sac in the axilla, as it was evidently about to point; a large quantity of offensive pus was discharged.

30th.—The wound above the clavicle is healed, all the pus being freely discharged by the opening in the axilla. He is covered with an eruption either of scabies, which I think it is, or of prurigo.

July 4th.—He is very much better in every respect; the use of sulphur ointment appears to be curing the eruption. I can feel pulsation in the brachial artery at the middle of the

arm, but I cannot yet distinguish the radial pulse: others have thought they could long ago.

August 2d.—There is no longer any discharge or appearance of sac.

19th.—He was discharged cured.

September 19th.—He presented himself at the hospital before leaving this part of the country to reside in his native town. He was very much improved in appearance, and in the use of his arm. The truncated extremity of the artery appeared to have risen upwards, as if straightened, and the pulsation could be felt as if at the end of a cul-de-sac. The supra-scapular artery was perceptibly enlarged. The fingers are losing their clubbed appearance, and the arm is increasing in size. The pulse at the wrist is quite distinct, though weak.

The history of this case is remarkably similar to one lately published (I think in July) by Mr. Hancock, except that I was fortunate in saving my patient, secondary hæmorrhage being spared him. This is the third case in which the rather uncommon operation of tying the subclavian artery has been performed within a short period. The last I saw was splendidly performed by Mr. Bransby Cooper, at "Guy's," twenty years ago.

ON THE

MICROSCOPICAL PATHOLOGY OF CHOLERA.

By Nicholas Parker, M.D.
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Dr. Brittan's paper in the Medical Gazette of last week contains the announcement of an important discovery. He states that he has found peculiar annular bodies, which are supposed by Mr. Quekett to be of a fungoid nature, in the dejections and vomit of cholera patients, and that subsequently he succeeded in detecting in the air of districts where cholera was prevalent, germs and cells which are believed to be earlier stages of development of the same bodies. It is assumed, moreover, that these bodies are peculiar to the evacuations of cholera patients, and that they have some essential relation to the disease. These statements demand from the profession a careful and dispassionate examination. It especially behoves those who are conversant with microscopical researches at once to establish or disprove the fact advanced by Messrs. Brittan and Swayne; for the conclusions drawn from the observed fact will (if confirmed) have an important bearing on the views generally entertained respecting the mode of origin and of prevention of cholera, and other allied epidemic and contagious diseases. The doctrine that certain epidemic and contagious diseases arise and become diffused through the agency of minute living organisms, is by no means a new theory. With various modifications it has been more or less prevalent for centuries. But it had become well nigh exploded until attention was again directed to it in our own time by the able writings of Holland, and of Henle. Various arguments have been adduced in its support; the more important are of two kinds, negative and positive.

The negative arguments are—

1st. The insufficiency of known physical causes to account for the origin and spread of contagious diseases.

Thus, to explain the cause of cholera, unwholesome food, and impure water, peculiarities of living, of climate, and of geographical situation, changes in the physical properties of the atmosphere, of its temperature, its hygrometric state, its electrical condition, and circumstances connected with the geological formation of countries, have in turn been invoked and abandoned. The Hindoo in the sultry plains of Bengal, who subsists chiefly on vegetable food, and the Russian, inhabiting a climate where the thermometer is many degrees below zero, and living almost exclusively on animal diet, have nearly equally suffered. Hill and plain, dry and moist situations, valley and mountain (as at Landour, 8000 feet above the level of the sea) have all suffered, though in very unequal proportions. We cannot in any of these circumstances find a clear and sufficient explanation of the cause of the disease.

2d. Chemical analysis cannot detect the presence of any deleterious agent in the atmosphere to which these diseases seem fairly referrible; and yet

cholera, like typhus, influenza, and the exanthemata, is clearly dependent upon some wide-spread general cause. For it appears spontaneously in a district which had been previously healthy; it attacks simultaneously, or nearly so, a number of persons; it is migratory in its course, passing from one locality to another, and that frequently at a considerable distance; it attacks individuals of both sexes, of every age, and of every constitution.

Epidemic diseases, then, cannot be referred either to changes in the known physical properties of the earth, air, water, or food, or to chemical alterations of the ingesta and circumfusa (for the ozone theory seems to be quite disproved by the remarks in the MEDICAL GAZETTE of last week); and hence they have been thought by some to be dependent upon a minute living organism, an animated principle of contagion. The following are some of the more important positive arguments by means of which this view has been attempted to be supported:—

1st. The increase of these diseases is promoted, retarded, or arrested, by means that promote, retard, or arrest the growth and development of such minute living organisms. Along the courses of rivers, more particularly where they form a delta, rarely at their source, in alluvial basins and in damp situations generally, wherever large masses of animal matter, in a state of decomposition, are allowed to accumulate—as about sewers, and those plague spots, the metropolitan grave-yards—there do we find cholera, typhus, and their congeners, to be rife, and there do they commit the greatest ravages; and these are precisely the circumstances which favour the increase and development of the lower organized forms.

2d. The poison which produces many of these diseases possesses a capability of increase when received into the body, reproducing itself at the expense of foreign organic matter, so that the effect produced is not at all in relation to the frequently small quantity of poison taken into the system. Like yeast, which is known to be a minute fungus, torula cerevisiæ, these poisons increase by assimilation. Just as a small quantity of yeast will suffice for the fermentation of a large amount of saccharine solution, and, growing, will increase a thousand-fold, so a single drop of small-pox virus will, when received into a living body, reproduce many drachms of a fluid endowed with like contagious properties. But no inorganic substance possesses such a faculty, and hence the reproductive power must be ascribed to a living organism, and most probably to a minute vegetable germ, or cell. This view is still further strengthened by the fact of the poison remaining latent in the system for a certain period.

3d. Minute vegetable parasites, or their germs, have been actually observed in connection with abnormal states of living plants, of animals, and of man:—By Unger,* in the parenchyma of the leaf of chrysomyxa abietes. By many observers, in different species of grain. By Meyen,† on the body of vibriones. By Westwood,‡ on the surface of the silkworm of China. By Busk,§ on the surface of dytiscus marginalis. By Bassi‖ and Audouin,¶ on the surface and in the interior of the common silkworm. By Laurent,** in the albumen and vitelline membrane of the ova of limax agrestis. By Ehrenberg,†† in the salmo eperlanus. By Müller,‡‡ Retzius,§§ and Creplin,‖‖ in pike and other fish; and by Goodsir and Bennett,¶¶ in the cyprinus auratus. By Henle*** and by Hannover,††† on the toes and integument of triton cristatus and punctatus. By Stilling,‡‡‡ on the surface of frogs. By Rousseau and Serrurier,§§§ on the surface of testudo Indica, and in the abdomen of hens, doves, and many other birds. By Rayer‖‖‖ and by Pappenheim,¶¶¶ in the yolk of hens' eggs.

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* Beiträge zür vergleichenden Pathologie, 1840, p. 1.
† Weigmann's Archiv, 1840, Bd. ii. p. 64.
‡ Westwood's Ann. of Nat. Hist., 1841, Nov.
§ Microscopical Journal, 1840, vol. i. p. 149.
‖ Del Mal del Segno v. Moscardino, 1837.
¶ Ann. des Sciences Nat., t. viii. pp. 229 and 257.
** L'Institut, t. vii. 1839, No. 288.
†† Froriep's Neue Not., 1839, No. 18.
‡‡ Archiv, 1841, p. 477.
§§ Ibid. 1842, p. 193.
‖‖ Weigmann's Archiv, 1842, Bd. xiv. p. 61.
¶¶ Transactions of Royal Society of Edinburgh, vol. xv. part 2, 1842.
*** Pat. Untersuch, p. 4.
††† Müller's Archiv, 1839, p. 338; and 1842, p. 77.
‡‡‡ Ibid., 1841, p. 379.
§§§ Comptes Rendus, 1841, 5 Juillet.
‖‖‖ L'Institut, 1842, No. 450.
¶¶¶ Gewebelehre des Auges, p. 217.

By Müller and Retzius,* in the respiratory tract of stryx nyctea, and of falco rufus; and by Reinhardt,† on the surface of the lung of various birds. By Ecker,‡ in a closed capsule contained within the abdomen of a raven. By Bennett,§ on the face of a mouse. By Langenbeck,‖ in the nasal discharge of a horse with glanders; and by Remak,¶ in the contents of the stomach and intestines of rabbits, oxen, sheep, and pigs.

In man, cryptogamic plants have been found growing on the skin and mucous membranes, both during life as well as after death, and they have also been detected in many of the secretions and excretions of the economy.

On the skin they have been observed by Remak,** Gruby,†† Bennett,‡‡ and others, in favus; by Gruby,§§ in mentagra and porrigo decalvans (Herpes tonsurans of Cazenave); by Gunsburg,‖‖ in trichoma; and by Sluyter¶¶ and Simon,*** in pityriasis versicolor. On the mucous membrane of the mouth their presence has been signalised in a form of aphthæ (muguet of the French), by Vogel,††† Gruby,‡‡‡ and others; and by Hannover§§§ and Bennett,‖‖‖ in the coating of the tongue. On the fauces and œsophagus by Hannover.¶¶¶ On ulcerated spots in the intestines by Langenbeck.**** In the posterior chamber of the eye by Helmbrecht.†††† In tubercular cavities, and in sputa, by Bennett‡‡‡‡ and Rayer.§§§§ In the fibrinous coats of the small bronchial tubes which are expectorated in pneumonia, by Remak.‖‖‖‖ In vomited matter, by Goodsir,¶¶¶¶ as well as by Gruby, Vogel, and Busk. In all fluid dejections, no matter how produced, whether by typhus, dysentery, errors in diet, or purgatives, by Remak;* and in the evacuations of cholera patients, by Boehm.† In carious teeth, by Erdl. In milk, urine, mucus, and pus, by many observers. We have now to add to the list, their presence in cholera evacuations, where they have been recently again pointed out by Messrs. Brittan and Swayne;‡ and in the perspiration of cholera patients, by Dr. Cowdell and Mr. Curme.§

That such vegetable parasites are not unfrequently met with in diseased conditions of animals and man, appears to be unquestionable, and we have now to inquire—

1st. Whether they or their germs exist in the fixed vehicles of contagions, and in contagious atmosphere.

2d. Whether they are invariably present in contagious diseases, and in those diseases only.

3d. Whether a causal relation obtains between them and the diseased state. The exanthemata frequently arise spontaneously, and still more frequently perhaps they are communicated by contact with the sick, or the air surrounding them. They are produced as well by a something mixed with the air, as by a something existing in, and emanating from, the bodies of the sick. The something mixed with the air, and the something emanating from the sick, may fairly be presumed to be identical. In the exanthemata the something which possesses the faculty of exciting the same disease in a person previously healthy, is known to be associated with certain fluids of the body—viz. blood, lymph, and pus, for the disease may be communicated by inoculation with those fluids. But the most careful microscopical examinations cannot detect anything differing from normal blood and pus, in the blood which placed beneath the cuticle causes measles, or the lymph which causes smallpox. Moreover, the constituents of blood and pus cannot traverse the atmosphere, and those substances must therefore act merely as vehicles of contagion. As for the principle of contagion itself, it completely escapes all our

* Müller's Archiv, 1842, p. 198.
† Ibid., p. 294.
‡ Verhand. der Natur Gesellschaft in Barol, Bd. vii. p. 95.
§ Op. cit.
‖ Froriep's Neue Not., 1841, No. 422.
¶ Diagnos. und pathog. Untersuch, p. 225.
** Med. Vereinszeit, 1840, No. 16.
†† Comptes Rendus, 1841, 12 Juillet and 2 Août.
‡‡ Op. cit.
§§ Comptes Rendus, 1842, Sept. 5.
‖‖ Pat. Gewebelehre, Bd. ii. p. 30.
¶¶ De Veget. par, Ber. 1847.
*** Hantkrankheiten, p. 311, 1848.
††† Allgem. Zeit. für Chirurg., 1841, No. 24.
‡‡‡ Archiv. Gén., 1842, Juin.
§§§ Müller's Archiv, 1842, p. 285.
‖‖‖ Op. cit.
¶¶¶ Op. cit.
**** Froriep's Neue Notizen, 1839, No. 252.
†††† Casper's Wochenschrift, 1842, p. 593.
‡‡‡‡ Op. cit.
§§§§ L'Institut, 1842, No. 448.
‖‖‖‖ Op. cit., p. 222.
¶¶¶¶ Edinb. Med. and Sur. Jour., 1842, April.

* Op. cit., p. 226.
† Die Kranke Darmschleimhaut in der Asiatischen Cholera, 1838, p. 57.
‡ Med. Gaz. No. 1139.
§ Ibid.

means of research, and its material existence cannot be proved at all: still less can it be proved to be a fungus. In the muscardine, a disease which prevails epidemically among silkworms, and which is undoubtedly caused by a fungus, it results, from the researches of Audouin, that the fungus is invariably present, and in every stage of the disease: that it is always one and the same fungus, and that the disease may be communicated to healthy worms by inoculation. This is also the case in favus. Is it so in cholera? are Mr. Brittan's annular bodies always present? Mr. Brittan himself states that "in very rapidly fatal cases these bodies are sometimes to be met with only in very small quantity, or are altogether absent." In the evacuation of a patient admitted to the London Hospital with cholera, which proved fatal in twelve hours, I could not discover these bodies. It does not appear, then, that this fungus is invariably present in cholera evacuations, and it seems particularly suspicious that it should be absent precisely where we should expect to find it in greatest abundance,—that is, in the most rapidly fatal cases. I leave for future investigation the solution of the point whether the bodies found in the air, vomit, and dejections, are of one and the same nature. Nor do I purpose entering into any discussion as to the precise nature of the bodies themselves, a question which requires a more extended investigation.

Granting them to be, as stated, of a fungoid nature, different species of fungi have been found by Remak, in nearly all forms of fluid dejections, no matter how brought about, and the presence of a fungus, differing, it is true, from that described by Messrs. Brittan and Swayne, in the stools of cholera patients, has been especially noted by Boehm in his work on the morbid states of the intestinal mucous membrane in Asiatic cholera.

3d. Does a causal relation obtain between these fungi and the diseased state? The foregoing considerations lead me to answer this question in the negative. For—1st. The active principle of the *fixed* vehicles of contagion cannot be proved to be a fungus, and therefore analogy would lead me to predicate the same respecting that of contagious atmosphere.

2d. Even were fungi present, they must be proved to be *essential*, and not accidental; the cause of the disease, not its symptom; for fungi are present in various and most different states of the economy, often without giving rise to any particular symptoms.

3d. But these bodies do *not* seem to be invariably present in the evacuations in cholera: they cannot, therefore, be its cause.

4th. The presence of a few fungi does not serve in any way to explain the terrible symptoms of cholera. Nor is our knowledge of the essential nature of this mysterious affection thereby materially advanced.

PARTIAL DEAFNESS OF TWENTY YEARS' STANDING, CAUSED BY THE PRESENCE OF A TOOTH IMPACTED IN THE EAR.

THE patient in this case, a shepherd, 32 years of age, applied to Dr. Niesmann for his aid in reference to deafness, from which he had suffered from childhood. He had been under Dr. Niesmann's care two years previously, when suffering from an attack of typhus, at which time the doctor regarded the deafness as the result of cerebral disturbance, and which he considered he would lose with returning health.

On examining the organ with a sound, it struck against a hard bony substance; and on questioning the patient, he replied, "Yes, there is a tooth there." Dr. Niesmann expressed his surprise at the answer, which was reiterated; and on further inquiry he learnt that, when a boy at school, a schoolfellow having removed a loose tooth for him, he jestingly inserted it into the external meatus, and it passed in beyond his reach. His hearing thereafter became impaired, and he was often quite deaf. Repeated but unavailing efforts had at various times been made for its extraction; he had suffered much pain, and lost much blood in these attempts, and had, in consequence of his deafness, been obliged to abandon his calling as a soldier, and had become a shepherd. Dr. Niesmann introduced a pair of fine long forceps into the ear, and by a rotatory motion extracted the tooth from the cavity of the tympanum. As if by an electric shock, the patient's previously dull and inexpressive countenance brightened up with joy, and he exclaimed "Now I can hear." The tooth weighed five grains, and was coated with hard cerumen.—*Casper's Wochenschrift.* χ

MEDICAL GAZETTE.

FRIDAY, OCTOBER 19, 1849.

We have seldom perused a more satisfactory document in relation to sanitary measures for preserving the Health of Towns, than that which has been recently published as the Report of the Sanitary Committee of Nottingham. Under a well-planned and organized system of inspection and visitation, and at a very small outlay, the Committee have succeeded in erecting a barrier against the diffusion of cholera through this densely populated manufacturing town. It has been generally considered that the cholera of 1849 has revisited its old haunts of 1832, and it has been perhaps rather too broadly stated that in no populous town had the inhabitants profited by the warning conveyed in the former visitation. However true this statement may be as it concerns the metropolis, it is not applicable to Nottingham; for the Town Council of that town have been actively engaged since 1832, in improving the dwellings of the poor, in draining, sewering, and ventilating streets, and in furnishing to all the inhabitants, whether rich or poor, an abundant supply of wholesome water.

It appears that in 1832, Nottingham contained a population of 53000 inhabitants, and there occurred during that year within its precincts, 1100 cases of cholera, of which 289 proved fatal. Thus there was one attack in 48,—and one death from cholera in 183 of the inhabitants. The state of the town at that time was well calculated to favour the diffusion of cholera when once introduced. It is thus described in the report:—

"There are about 8000 back-to-back dwellings, many of them forming courts having but one entrance. The whole area of the town is smaller, in proportion to the numbers dwelling in it, than that of perhaps any other place in the kingdom. At that time a general survey of the town proved that the use of the additional supply of water, then recently introduced, was not sufficiently general; that the drainage was defective; and that many great nuisances existed, some of which were of very long standing. A number of thickly-populated streets were then unpaved, without sewers, and exhibited along their whole course pools of filthy water, or moist extended dung-heaps. In this state, too, many of them have been permitted to remain up to a recent date. Two or three years since there were found groups of thirty or forty houses, the occupants of which since they were built, fifty years ago, have never had the use of a privy; and hundreds of these conveniences were unfit for the use of any human being; many dwelling-houses were constructed over such privies, to the people dwelling in which the Board of Guardians, knowing their unhealthiness, had for some years refused out-door parochial relief."

The "great scavenger," as the cholera has been designated, fixed itself in 1832 in the filthy ill-ventilated and crowded courts, and did not cease its ravages until it had destroyed the large number of persons above mentioned.

The first piece of sanitary reform consisted in the almost unlimited supply of wholesome filtered *water*, obtained from the river Trent, and copious springs in the neighbourhood. Let the mode in which Nottingham is supplied with this necessary of life be contrasted with the niggardly dealings of the water monopolists of the metropolis, otherwise known as Water Companies. We are informed that the filtered water

"Is forced by day and night at high pressure along all the streets, and is capable of rising to the upper stories of almost all the houses in the place without cessation, throughout the year. The quantity taken by nearly nine-tenths of the dwelling-houses amounts to 450,000,000 gallons per annum. This is equal for the population supplied to 18 or 20 gallons per head per day, or from 600 to 700 gallons per week for each family. The dwellings of the poor are supplied at a cost to the owner averaging about 5s. per annum for each house, or not quite 1¼d. per week. This is generally paid by

the landlord, and, of course, received back again in the rent. There has been, usually, only one common tap in each court ; often, however, two or more such taps are placed in large courts, and minor thoroughfares, to which all the inhabitants have in practice free access. The remaining small portion of the dwellings are supplied from other sources, at a somewhat higher rate of charge, and in almost equally liberal quantity. This admirable supply of water in Nottingham is of inestimable value, by promoting the cleanliness, health, and comfort of the people.'

In the meantime, the lower and most unhealthy districts of the town were substantially repaved and drained; and asphaltic pavement was employed with the greatest benefit in a sanitary point of view in courts and other confined spaces in the midst of dwellings. We are informed that an extensive surface is now covered with this useful material in various parts of Nottingham.

The unhealthy practice of intramural burial also received a check :—

"The graveyards of the town were inadequate to allow of the decent interment of the dead. A proprietary cemetery of 12 acres was laid out external to the town in 1836, in which 6,579 burials have taken place ; added to which several acres outside the town were appropriated as a public burial ground at the time of the prevalence of the cholera in 1832, where many interments have since taken place. These have diminished intramural burials, and prevented the increased development and spread of pestilential vapours amongst the dwellings that surround the old graveyards."

In addition to this, two public cemeteries, each of four acres, have been allotted outside the town.

The nuisances arising from various manufactures have been abated, not so much by the strong arm of the law as by the adoption of conciliatory measures towards the persons who were interested in their maintenance; and in fact the whole of the inhabitants seeing the necessity of improving the condition of the town, and taught by the fearful experience of 1832, appear to have co-operated cordially with the efforts of the Sanitary Committee. The members of this Committee admit that public opinion has been their best support and aid. There are no "Defenders of the Filth" in Nottingham.

In a financial view the result is most creditable to those who have been entrusted by the Town Council with the office of carrying out these sanitary improvements :—

"*The three years' total expense incurred by the council in working the sanitary committee, is about* £150 ; the insignificant amount of this expenditure, as contrasted with the importance of the results obtained, proves that the plan pursued is at least a very economic one. It will encourage the council to appropriate such reasonable sums to the uses of the committee as may enable them to secure improvements which might otherwise be unattainable."

The efficacy of these measures in arresting the pestilence which has spread throughout the land, is strongly indicated by the fact that up to the time of issuing the report (Sept. 29) there had been in the town, during the past terrible three months, only *eight* cases of cholera, of which six had proved fatal. Although there had been much diarrhœa discovered, and relieved by active medical superintendence, yet the health of all classes was then considered to be in a satisfactory and hopeful condition.

The report is concluded with the following judicious and appropriate remarks :—

"From the preceding statement may it not be reasonably concluded that,—

"1. A constant and plentiful supply of good water ;

"2. Clean, dry, and well-drained streets and courts ;

"3. A considerable extent of extramural burying ground ;

"4. An active foresight on the part of the authorities ;

"5. Favourable public opinion and co-operation ;

"6. Prompt medical aid,—have been most important means of preserving public health and saving many lives in this place ?

"The wisdom, power, and authority of the great Disposer of all events are humbly

acknowledged to be supreme, 'none can stay His hand, or say What doest thou?' But, in endeavouring to ward off disease by consulting the laws He has ordained for the preservation of health, the committees are fully confident they are, though imperfectly, yet reverently and truly, obeying Him, while they are promoting the best temporal interests of the community. In so doing, while they entirely depend for the result on the Divine blessing, they have desired to show an energy and zeal corresponding with their responsible duty, and so to act as though success depended alone on their efforts; yet, having by their office seen, as they believe, more than others, of the danger, they would be the first to return heartfelt thanks to God for His merciful protection hitherto vouchsafed to this town, in preserving it from calamities which have filled other parts of the land with desolation and grief.

"W. FELKIN, Chairman of the
"Sanitary Committee.

"Sept. 29."

What a painful contrast does the condition of this metropolis afford to the picture here drawn of the sanitary state of Nottingham! In whatever point of view it may be regarded, the comparison is most unfavourable to London. We have had a lay Board of Health whose proceedings have been chiefly marked by the occasional publication of lengthy notifications resembling the yearly addresses of American Presidents. We should be at a loss to point out any practical benefit derived from the establishment of this Board: on the contrary, their vacillating orders regarding diet and contagion have only tended to add to the general panic, and to destroy in the public mind all confidence in their proceedings. It is stated upon authority that a sum of about £60,000 has been already expended on sanitary measures in London, and all we have to show for it is the closure of a few burial grounds at the eleventh hour! That we have failed to profit by the sad experience of 1832 is pretty generally acknowledged. A list of 14000 deaths for the metropolis alone, within the short period of four months, is in itself a sufficient proof that the malignant pestilence has been permitted to gather its victims almost unchecked.

The cholera left us in 1832 with bad water and a deficient supply, and it so found us in 1849. No attempt has been made to improve the water or add to the supply: one of the great sources of health in a populous town is allowed to remain in the hands of private companies, who are leagued together against the public to obtain a maximum rate, and to furnish in return a minimum supply. We trust that the prediction of a contemporary, that the days of the water monopoly—that opprobrium of our boasted competitive system, are numbered, may be verified. "The charges of these greedy monopolists are extortionate; their supplies impure and insufficient; their system of cisternage bad and poisonous; their vested rights a hollow pretext; and their administration a protracted job." We were certainly not prepared for the announcement recently made to the City Commission of Sewers, that at a time when more water was wanted, *less* was actually given.

"From this report it appears that the New River Company, in the very height of a pestilence distinctly traceable to filth, domiciliary and personal, as its generating cause, suddenly withdrew one-half of the scanty water supplies doled out during the seven previous months, to the squalid occupants of the city courts; and thus deprived thousands of our poor fellow-creatures, in the hour of their extreme need, while actually labouring under incipient cholera, of those means of cleanliness in which lay their only chance of escape. From the poor gasping wretches thus consigned in cold blood to the horrors of a water-famine, this company were, be it remembered, at the same time drawing a profit of at least ten per cent. per annum upon their paid up capital."

With respect to some of the Water Companies, however, it would probably tend to good sanitary results if their supply were altogether withheld. Our contemporary, the *Times*, remarks—

"If water can be obtained, purer than that which the Chelsea Water Company pumps from the River Thames *hard by the*

mouth of the Ranelagh sewer, and which (to call a spade a spade) is really little better than diluted excrement, they have no more right to force this nauseous compound down their customers' throats, or to demand compensation for the loss of this odious privilege, than a post-horse keeper has to require compensation for his broken-kneed cattle and decrepit chaises, when superseded by the smooth railway's rapid grooves. We conclude with the emphatic declaration that the existing metropolitan water privileges were obtained and extended by corruption and abuse; that they are now exercised against the general interests of the community, to the cruel privation of the many, and the unjust and excessive emolument of a few; that the continuance of this false and pernicious system is the chief obstacle to the purification of the metropolis, and the amelioration of the public health; and that its abolition, with a view to improved arrangements for the supply of water, under the administration of an elective public board, is among the first and most pressing sanitary exigencies of the time."

There is much truth in these remarks, and we think that the subject cannot fail to receive the early and serious attention of Parliament. If an example be required to show the benefits of an abundant supply of pure water, we would point to the Nottingham report.

With respect to sewering and draining but little has been done. The Metropolitan Commission soon became a laughing-stock, and has ended in a dissolution, after a large expenditure of public money without any corresponding benefit. Instead of setting to work practically, the members occupied their time in trivial discussions on unimportant subjects; and we are informed on respectable authority, that while "builders have been allowed to build houses at such low levels that they cannot be drained into the sewers, the Commissioners have gone on building sewers into which the houses could not be drained!"* As to the great metropolitan nuisances—the intramural graveyards, the slaughter-houses, the bone and glue factories, &c., the Defenders of the Filth have, to a certain extent, and by the aid of legal ingenuity, triumphed over the Board of Health, and set its orders at defiance. We trust this triumph, however, will be of short duration; and that some sanitary measures of a very stringent nature will speedily remove all doubt respecting the earnestness of the Government in carrying out those regulations which are necessary for the protection of the public health. The report of the Sanitary Committee of Nottingham shows what may be done when power is placed in the hands of competent men.

* Hosking's Healthy Homes, page 277.

Reviews.

On Gout; its History, its Causes, and its Cure. By William Gairdner, M.D. Pp. 232. London: Churchill. 1849.

We doubt if there be anywhere a better field for the study of gout than in this great metropolis. From the highest ranks down almost to the lowest, it infects society; sometimes exploding in violent paroxysms, at other times lurking about the constitution, and showing itself in symptoms which are generally puzzling, and often totally misunderstood. The book before us contains the matured opinion of a physician who has long and successfully practised among us; and in the short space which we can at present give to the subject, we shall lay before our readers an abstract of some of the most important matters contained in it.

In noticing the prevalence of the gouty diathesis, Dr. Gairdner points out the common error of fancying that no man is gouty unless he has had regular paroxysms of the complaint. Dr. G. is convinced, from long observation, that even the scrofulous diathesis is hardly more diffused than the gouty. In the doctrine of a materies morbi accumulating in the system, he has no faith; and this part of the subject is well and lucidly argued. Inflammation he considers is not essential to gout, which, indeed, is in its nature the reverse of inflammatory, however fre-

quently a peculiar inflammation may attend the accidents to which it gives birth. In illustration of the difference between common inflammation and that which attends even violent fits of gout, Dr. G. mentions that he never saw gout terminate in suppuration, except on one occasion, when the discharge was remarkably ill-conditioned and offensive. Nevertheless, gout seems closely connected with a morbid state of the organs of circulation, because, according to our author, the first sign of impaired health indicating the diathesis is usually some disturbance in the heart's action. When the diathesis is more confirmed it is distinctly marked by debility of the veins, which remain swollen and turgid, as the blood entering them is prevented from flowing onwards by impeded circulation at the heart. The diagnostic value of this venous turgidity in doubtful swellings is well illustrated by cases. The local effects produced by gouty congestion range from mere œdema to ecchymosis; one chief cause of the pain being the pressure to which the nervous fibrils are exposed as they pass between the dilated capillaries. Another effect of this venous plethora is to diminish or suspend secretion. Thus it may be said of gout that "its alliance is with varix, hæmorrhage, and apoplexy: it cannot be classed with pyrosis or neurosis."

Dr. Gairdner passes in review the different varieties of gout described by authors; all of which he considers may with advantage be reduced to two broadly-marked kinds—viz. the regular and the atonic. The disease itself is described as having three different stages, founded upon well-marked characters, which it is highly important to distinguish in a practical point of view. In the first stage there are paroxysms with intervals of sound health between. In the second, the attacks are followed by impaired health in the intervals. In the third, the fits are obscure and ill-marked; and the disease itself, in one shape or another, is nearly always present.

Gout is usually described as being preceded by dyspeptic symptoms; but Dr. Gairdner remarks that this applies rather to the advanced than to the early stages of the complaint. One of the earliest signs usually noticed by the author has been a dull pain in the left side of the chest, with inability to lie on that side, and sometimes also fluttering or irregularity of the heart's action. After these follow signs of impeded cutaneous circulation. The skin is dry, hot, and often itchy; or scaly eruptions appear. Hæmorrhagic complaints, especially piles, are often premonitory; and Dr. G. has seen both hæmatemesis and hæmoptysis cured by a regular fit of gout. As premonitory signs may likewise be regarded various painful or uneasy sensations, chiefly affecting the head, eyeballs, ears, fauces, and teeth. More than once, in such cases, the author has seen perfectly sound teeth extracted without the slightest relief. Symptoms connected with the joints, although usually deemed most significant of impending gout, are, according to Dr. Gairdner, much less frequently observed than the other symptoms already mentioned.

Among the more serious terminations of gout, Dr. Gairdner specially points to apoplexy, menorrhagia, hæmorrhoids, and melæna; also to dropsy, which is generally hydrothorax or ascites, seldom anasarca. The author also notices the fact that gout is sometimes suddenly fatal without any intervening process of disease. "Such are the cases of sudden death so often heard of in gouty persons, and generally, but arbitrarily, referred to gout in the brain and gout in the heart." Dr. Gairdner details several striking instances of this nature; and we believe that the recollection of most practitioners could furnish other examples of a similar kind.

Women, according to our author, are less liable to gout than men. It is seldom seen before puberty, at least in its regular form, although the diathesis may sometimes be clearly discerned, even from childhood. Dr. Gairdner has met with two cases of regular paroxysms of gout in young girls.

We wish our limits allowed us to quote at length the description of atonic gout given by Dr. Gairdner at page 53: we must be content to refer our readers to the work itself. We shall only remark that the character and even the spirit of a most puzzling disease are there most graphically pourtrayed. The author believes that metastasis of gout to the head occurs more frequently than to any other place.

"It is usually stated that it shows itself in the common forms of apoplexy and paralysis. I have found these the rarest forms of the disease. I have more commonly seen a kind of stupor, in which the patient preserves his senses of hearing and sight, but loses his consciousness of persons and circumstances, place and time. He knows no one about him, not even his own family; his utterance is imperfect, or altogether lost; he seems like a person entranced; his eyes are vacant and staring; his pulse is full and hard; he understands some of the things said to him, and will do as he is bid, if that which is demanded of him may be easily and quickly done. When asked to do so, he will hold out his hand or show his tongue, but is unable to comprehend any lengthened phrase. He probably hears only one word in a sentence, and does not know any thing or person around him, unless his attention be forcibly called and pointed to the object; yet he smiles stupidly on all, and seems conscious of his own infirmity. Such is, according to my observation, the common form of metastasis of gout to the brain, in which it is not difficult to discern the first stage of oppression. If it proceed to complete apoplexy, the symptoms do not vary from those of its ordinary form." (p. 57-8.)

Into the chemical part of the work we shall not enter. Suffice it to mention that the urine of gouty patients has been frequently examined by Dr. Gairdner with great care, and that he has been led to the conclusion that

"The uric acid, though not derived from the urea, at least owns the same origin, and that these substances are vicarious of each other. In a state of health, the elements necessary for the composition of urea are separated from the blood; but, under the influence of the gouty diathesis, the secretion of uric acid takes place with greater abundance." (p. 88-9.)

With regard to the treatment of gout, Dr. Gairdner observes that a lowering plan is usually contraindicated. Small bleedings, however, may often be employed with advantage, not to reduce the force of the circulation, but to relieve congestion, and thereby restore secretion. Drastic purgatives are to be avoided, but laxatives are essential. For some years past he has made little use of the neutral salts: the warm and more powerful vegetable aperients—as senna, aloes, rhubarb, jalap, and scammony, are to be preferred. But Dr. Gairdner recommends small doses of saline diuretics, especially combinations with the vegetable and the phosphoric acids. On the employment of colchicum he observes:—

"The cases to which colchicum is most applicable are, without doubt, those of the regular disease, without injury of organs. If there be injury of tissue, so as to argue a destruction of function of any considerable portion of the kidney or liver, the relief to be obtained from colchicum will be problematical. The cases, too, of atonic gout certainly receive less relief from this medicine, and some of them are so little influenced by it as by no means to compensate for the low and depressing feelings it often creates. These effects may, however, be much obviated by combining it with warm aromatic tinctures and waters, and with the vegetable laxatives. The latter do not in the least destroy the specific action of colchicum, but, on the contrary, much promote it." (p. 204.)

We cordially agree with Dr. Gairdner in his opinion that it is a pity to employ colchicum at the outset of the disease. Large doses may then be often given without any other effect than to prostrate the patient and disturb the function of the stomach, whilst at a later period of the attack a much smaller dose will act kindly and effectually.

We cannot take leave of the author without thanking him for having condensed so much valuable matter into so small a compass. His style is clear and terse; and we may congratulate him on having produced the best treatise that has lately appeared on the subject of gout.

Causes Générales des Maladies Chroniques, specialement de la Phthisie Pulmonaire, et moyens de prévenir le developpement de ces affections; avec l'exposé succinct des recherches expérimentales sur les fonctions de la peau, &c. Par A. Fourcault, de l'Académie Royale de Médecine, &c.

On the General Causes of Chronic Disease, more especially of Pulmonary Phthisis; with the means of preventing their development, &c. &c. By A. Fourcault, of the Royal Academy of Medicine, &c. &c. 8vo. pp. 480. Paris: Busillon. London: Baillière.

The author of this work commences by propounding the differences between descriptive, organic, and experimental medicine. By *descriptive* medicine he designates the grouping of symptoms, or the natural history of disease. *Or-*

ganic medicine, in the author's words, is the relation of the order of the phenomena and symptoms to the structural change. *Experimental* medicine is defined to be that by which the "molecular phenomena are studied, and their relations to local lesions and symptoms estimated:" it is the method by which the results of observation are to be elucidated. In following the latter method M. Fourcault believes that he has succeeded in removing all the difficulties and obscurities to be met with in pathological investigation, and in demonstrating that the relations of causation have hitherto been misapprehended; that mere accidental coincidences have been regarded as secondary or even primary causes; and lastly, that he has filled up the voids which have hitherto existed in the history of chronic diseases.

The one idea of this book refers to the pathological effects arising from the suppression of the cutaneous transpiration, and its chief object is "to endeavour by analysis and experimental physiology to demonstrate the influence of the elements of the cutaneous transpiration on alterations of the blood, and the production of local lesions." p. 8. "The doctrine of Hippocrates," the author observes, "shews that beneficial critical discharges by the skin, constitute the most frequent and happiest crises of disease. But my observations and experiments show that it is principally by this membrane that external and internal causes operate to the production of disease. I demonstrate a hitherto unknown pathological relation between the skin and the internal organs, and explain phenomena which no theory has heretofore proved adequate to explain. I reveal the principal sources of diatheses and cachexies, and the causes of the alterations of the blood in acute diseases, *e. g.* cholera, plague, yellow fever, continued remittent and intermittent fevers."

It will be seen from the preceding quotations that the author attaches no small degree of importance to the theory at which he has arrived. He believes himself to have united in one group, diseases the most contrary, and arising under apparently the most opposite conditions. We must concede that by an extensive series of observations, the wide range of his experiments, and the carefulness of his inductions, the author has done very much to improve the department of pathology to which he has specially devoted his attention.

After comparing the condition of artizans in large towns where they are excluded from light and pure air while engaged in occupations calling for but little bodily exertion, or only that of the hands and arms, with the condition of rustic labourers or urban populations under conditions the reverse of the preceding, the author deduces the conclusion, "that muscular exercise, whether in the open air, or within doors, is indispensable to man; that when deprived thereof he becomes a victim to chronic disease, because when the functions of the skin are inactive the capillary circulation is languid, and a tendency to internal congestion is engendered. Whence he deduces this principle, that to preserve man and animals from tubercular affections it is necessary that they be habitually subjected to the influence of free atmospheric air." To this principle few have hitherto been known to demur: it is but the expression of universal experience.

Dr. Fourcault has verified his principle by facts which he has accumulated while visiting Holland, Belgium, France, Italy, and England, inspecting the condition of their labourers and paupers, in the various institutions, hospitals, and workshops, both of towns and villages; in all instances he has carefully taken into consideration the influence of climate. Where the strumous constitution has been most strongly developed, humidity, and exclusion from sun-light and pure air, have been found the invariable conditions of the sufferers' habitations. A real bleaching has been observed similar to what is known to take place in etiolated plants excluded from light and air. "When care has been taken to favour the free circulation of atmospheric air, when bodily exercise has been regularly enjoined, when light has been allowed to exert its full influence on the skin, the sad consequences of human etiolation have often been prevented, and the number of chronic diseases has suffered a marked diminution."

These hygienic facts, as the author observes, merit the serious attention of

physicians, parents, superintendents of institutions, and legislators. It is in prisons and manufactories that Dr. Fourcault has seen some of the most lamentable effects both to body and mind of the want of muscular exercise, fresh air, and sunlight. It is therefore indeed worthy of the solemn consideration of legislators, whether, in dooming criminals to separate confinement in the cells of a prison, they are not stepping beyond the limits of punishment, and acting the part of the unlawful executioner.*

Public attention has lately been much directed to the subject of prison-discipline, and it is much to be desired that its effects on body and mind as observed in the various prisons of England could be fairly and impartially examined. Dr. Fourcault's work may be read with benefit by the exclusive advocates of any one system against another.

Much difference of opinion has existed, and many long discussions have been held, on the protective influence of ague against phthisis: the author regards this supposed protective influence as an entire fallacy, arising out of the fact that the true influence of humidity in causing disease has been overlooked or misstated. The truth is, as M. Fourcault states, both intermittent fever and phthisis are produced by the injurious influence on the skin of exposure to cold and moisture; that in marshy districts the former is the more frequent result, because other agencies also operate on the system, and that therefore, according to the laws of the equilibrium in the causes of mortality, phthisis is necessarily less frequently met with, but that assuredly no influence exists in these places by which the latter disease can be prevented, or when once commenced its fatal course can be arrested: if such were the case, the best advice to be offered to consumptive patients would be that they should go and reside in damp and marshy situations! What fearful and melancholy consequences would result, we suppose will not be much doubt.

In reference to the influence of hereditary predisposition in the development of consumption, the author considers that it is not an ordinary *cause* thereof, as he has never met with tubercles in new-born infants, but that it simply entails a disposition to the development of phthisis, which, however, may be entirely superseded by judicious selection and employment of climate, exercise, &c.

The results of Dr. Fourcault's experiments on the functions of the skin are already before the profession, as they are to be found in all standard works on physiology. By covering the bodies of animals with a coating of varnish, the blood in the cutaneous capillaries becomes, as the author terms it, asphyxiated: the temperature of the body is reduced, and death follows. By covering only a portion of the surface, a febrile state is induced, and albumen appears in the urine. The materials of the cutaneous transpiration, instead of being duly eliminated, are thrown back into the circulation, producing symptoms similar to those caused by disease.

We can scarcely give the author credit for his alleged "repugnance to painful operations," when he can thus skin animals alive in order to perform experiments upon them. In the name of common humanity we protest against the perpetration of such cold-blooded barbarities, the bare narration of which makes one shudder.

Dr. Fourcault sees in the effects of the retention of the elements of cutaneous transpiration a state identical with the blue stage of cholera, and at the same time a sufficient explanation of that condition.

All chronic diseases are, according to the author, caused by the suppression of the cutaneous transpiration. In Lower Egypt, where great humidity prevails, we are told that this cause is recognised by the people in general; so much so, that when an Egyptian meets a countryman, his first question, is not "How do you do?" but "Do you perspire?" We quote this, on Dr. Fourcault's authority, as a piece of pathological courtesy, although we doubt whether the knowledge of the natives of the land of the Pharaohs on this subject is more than skin deep.

In support of his cutaneous theory, M. Fourcault refers to the doctrine of crises, and asserts that fevers, acute inflammation of important organs, dysentery, &c., are all terminated favourably

* Such it would seem is also the opinion of our own government, from the modifications which they have recently made in prison discipline.

by a perspiratory crisis; adding, however, this very considerable modification—"that if the noxious matters be not eliminated by this channel, they will find an outlet by *the kidneys or other emunctories*,"—an admission, we think, nearly fatal to the previous statement. Anything like a critical discharge that can be confidently looked forward to as the *regular* termination of an acute disease, or of fevers, has been commonly looked for in vain; but we do not deny that such a favourable termination may occasionally and unexpectedly occur.

This theory of the influence of suppressed cutaneous transpiration is extended also by the author to the production of acute disease by the presence in the blood of the lactic acid which should have been excreted by the skin.

In attributing to the same cause the occurrence of albuminuria,—or hydro-albuminuria, as the author designates this form of dropsy, to distinguish it from the existence of albumen in the urine without dropsy,—we perceive that he is but partially acquainted with the views of British pathologists on this disease, when he states that on this side of the Channel disease of the kidney is its sole recognised cause. We may remind our readers that at least fifteen years ago, Dr. Osborne, of Dublin, pointed out its intimate connection with the state of the skin, and, by directing attention to this indication, introduced the treatment by promoting diaphoresis, which has been found eminently successful in many instances. So far, therefore, Dr. Osborne has actually anticipated the views of Dr. Fourcault.

Induration of the cellular tissue, phlegmasia dolens, lepra, elephantiasis, rachitis, anæmia, struma, gout, rheumatism, diseases of the nervous system, and, in fact, as we have before stated, all chronic and acute diseases, are attributed by M. Fourcault to defect in the functions of the skin. We are by no means disposed to underrate the importance of a secreting organ of so great extent, and so abundantly endowed with blood-vessels and nerves, as the skin, in relation to the causes of disease; but we think that it is possible, by directing attention exclusively to this organ, and neglecting to take into sufficient consideration those no less important organs, the lungs, stomach, intestines, &c. &c., that much error in etiology may be incurred, and many valuable indications in therapeutics overlooked.

The second part of the work before us is devoted to the subject of *Hygiène*, in which the principles are deduced from the preceding theory and facts. The author's observations in reference to protective and preventive measures in the consumptively disposed are in accordance with those which are generally admitted. The remarks on the preference which should be given to physical over intellectual education in young children are just and forcible; but we despair of their receiving more attention than the reiterated warnings and cautions of his predecessors: it almost seems as if children were doomed by a hard fatality to sacrifice their health and bodily vigour to a fictitious and evanescent state of intellectual energy, the product of scholastic hot-beds.

The great importance of exercising muscles in the open air, and under exposure to the invigorating influence of sun-light, are so obvious, that even those who disregard hygienic views, cannot doubt their importance to health. We quote the author on the physiological effects of gymnastics:—

"They preserve health, and invigorate the constitution; they give force to the muscles, strength to the bones, energy to the vascular system, courage and mechanical skill to the individual; they correct vices of conformation, render the senses acute, promote the functions of the skin; they combat hereditary disposition to disease; and, lastly, in a moral point of view they give rise to the most important results." (p. 354-5.)

Neither are the influences of music and dancing overlooked by the author: the effects of the former, however, must be allowed to be rather indirect than immediate in regard to the hygienic treatment of chronic disease; the latter is but a form of gymnastics considered in the same point of view.

This portion of the volume concludes with the consideration of the hygienic effects of rest and sleep, travelling, bathing, water-cure, habitation, clothing, food, and labour. We do not find that these several subjects afford us any fresh information of a practical character, or of special importance to

the medical profession. We need hardly add that they are all fully and ably discussed; and these chapters will convey much useful information to those who have not hitherto given attention to the matters whereof they treat.

We recommend the entire volume to the careful perusal of pathologists; for although it might with advantage have been considerably abridged, by avoiding some repetitions and recapitulations, it contains a store of valuable facts; and although Dr. Fourcault is naturally disposed to attach a greater importance to his own views than will perhaps in all instances be conceded by others, his inferences are the legitimate deductions of reasoning from a large number of facts collected with much trouble and care.

Proceedings of Societies.

WESTMINSTER MEDICAL SOCIETY.

October 6.

Mr. Hird, President.

At the meeting of the Society this evening, a paper was read by Dr. Webster, entitled

Observations on the Health of the Metropolis during the last six months, more especially in reference to the recent epidemic cholera.

Referring to his previous communication respecting the health of London during last winter, read to the Society towards the close of the session, the author, after several prefatory remarks, said—Notwithstanding the very recent great mortality in the metropolis during the months of April, May, and June last, so far from being insalubrious, fewer deaths occurred in London than during the same period of 1848, although cholera had already carried off 268 victims, and diarrhœa 240 individuals. The decrease was chiefly in scarlatina and typhus; in the former disease, the deaths were 322 less; and in the latter malady, 370, than during the same months of 1848. The author, however, made a very different statement indeed respecting the three months from Midsummer to last Michaelmas, when the mortality in London was greater than had ever been known, even since the great plague, 184 years ago. Instead of 13,503 deaths recorded in the same period of 1848, the numbers, this year, were a fraction more than double, or 27,159, by all diseases; and this increase chiefly arose from cholera and diarrhœa, by which two diseases 15,811 had died during the last quarter. Commentin upon this enormous amount of deaths, Dr Webster observed: History tells us of the black death of the middle ages. In this country we often hear reference made to the black assizes; and in popular language Black Monday is often mentioned. Now that the period of our greatest danger is happily passed, and the health of the community is rapidly improving, the first seven days of last September may well be called the "black week of 1849," seeing that 3183 human beings were then called to their final account, instead of 1008, as in ordinary weeks, being at the rate of 454 per diem, in place of 144, as in previous seasons. On the other hand, scarlatina only proved fatal to 404 individuals, instead of 1560, as in the former autumn; being a difference of 1156 in favour of the same quarter of 1849, just terminated. Again: small-pox had proved fatal in only 191 cases since the 1st of last April to the 29th September of the current year, instead of 816 deaths, by the same malignant malady, registered during the parallel six months of 1848. In reference to the subject chiefly embraced by the author's paper, he would first notice the localities where the recent epidemic had prevailed most fatally; then the causes apparently influencing its appearance; and lastly, the measures to be employed to prevent a recurrence. Respecting the districts in which the disease had exhibited the greatest severity, speaking generally, it was most decidedly so on the low grounds adjoining the south banks of the Thames, where, in a population of only one-third of the entire metropolis, or 580,000 persons, nevertheless more than half the deaths by cholera, or 6708 out of the 13,114 registered during the last six months, took place in this part of London, being treble the amount met with on the northern side of the river, in proportion to the inhabitants. Dr. Webster then entered into several elaborate statements in regard to the comparative mortality of different localities, — whether in the southern, north-eastern, or north-western parts of London,—of which the following is only a very brief report. In Lambeth parish, the ratio of deaths by cholera was one person in every 91 inhabitants during the last six months. In St. George's parish, Southwark, one died in 64 of the population; whilst in Bermondsey the astounding mortality of one death in every 56 inhabitants is recorded. Contrasted with such sad mortuary details, the author then alluded to the north-eastern districts, in which the mortality was considerably less than in the parishes previously mentioned. Thus in Whitechapel the ratio was one death by cholera in every 156 inhabitants; in Shoreditch, one in every 134 persons; and in

Bethnal Green, one fatal case occurred in every 120 persons resident in the parish. On the other hand, in London city, the proportion was one death by the recent epidemic in every 270 inhabitants. Again, in Marylebone, the proportion was one death in every 609 residents of the parish. In St. James's, Westminster, one in every 678; whilst in St. George's, Hanover Square, although 121 persons had died in a population now estimated at about 74,500, 100 of these deaths by cholera took place in that division of the parish towards Chelsea and the river usually called Belgravia, having nearly half the entire population; besides, it should be noticed, that the number of deaths now stated does not include the thirteen fatal cases reported from St. George's Hospital, situated in the district. Several of the other deaths recorded occurred in the May-fair district, chiefly in the neighbourhood of Shepherd's Market, whilst only thirteen fatal cases are reported from the Hanover Square division, the most open, elevated, and salubrious portion of the parish, and as it has an estimated population of about 24,000, the rate of mortality was therefore only one death by cholera in every 1846 inhabitants. Of the thirteen cholera deaths in this part of London, seven were adults, and six infants and children. The particulars of these cases were next succinctly related by the author, to show that the impaired constitutions, habits of life, residences, and previous disease, of most of the victims, very materially contributed to the supervention of the malady under which they had sunk, and the facts stated seemed most instructive in regard to the effect which insalubrity of locality, &c. had elsewhere upon the epidemic. The sex and ages of the persons who died next occupied the author's attention. As to the former point, more women—about five and a half per cent.—than men were carried off by the cholera, whilst at least one-half of the victims were in the prime of life, the greatest number being from thirty to thirty-five years of age. One-fourth were infants or young persons, the remainder being old people. Speaking accurately, 3534 died under fifteen years of age, 7565 from that to sixty, and 2015 were upwards of that period of life. Subsequently, Dr. Webster proceeded to consider the causes apparently influencing the prevention of cholera, which he divided into four categories—namely, atmospheric, local, individual, and exciting, upon each of which topics he entered at some length. Respecting the ozonic theory, although ingenious, and well deserving of further notice, still so few facts had yet been brought forward in its support, that further investigation and experiments were necessary, to establish the deductions enunciated. Allusion was then made to the malaria of unhealthy districts, and various as also interesting reports were made by the author respecting the difference of atmospheric phenomena observed in London during the month of August and first week of September, at which period the recent epidemic proved so fatal, contrasted with those noticed during the second and latter weeks of September, when the malady declined so remarkably. Dr. Webster particularly adverted to the dryness of August, the great variation of the temperature between the night and the day, with the small amount of electricity, and the low barometric pressure then observed; whilst in September the phenomena were often very different. The most influential local causes, in the author's estimation, were low damp situations; the vicinity of common sewers; open ditches filled with refuse; crowded neighbourhoods; recently used, and especially overstocked grave-yards; cesspools; the absence of means for carrying away putrid animal or vegetable exuviæ; the want of free ventilation, as also of an ample supply of good water; the accumulation of filth, and similar abominations. The individual causes, again, were dissipated habits; broken-down and debilitated constitutions; previous disease; personal uncleanliness; deficient nourishment; neglect of premonitory symptoms; defective or deranged general health; bad clothing; misery; destitution;—in short, whatever impairs the physical strength or moral energies of an individual. Amongst the chief exciting causes Dr. Webster ranked bad water, especially if contaminated by noxious ingredients; decaying or putrid food, whether animal or vegetable; intoxication; exposure to the night air, particularly when asleep in insalubrious localities; great bodily fatigue; strong purgative medicines; fear, all mental emotions of a depressing character; besides any influence which suddenly debilitates the nervous system or corporeal frame. Speaking generally, the author considered the recent epidemic ought not to be ascribed to the action of one influential or particular agent, but to a combination of the various circumstances to which he had alluded; and he thought we were too apt to reason erroneously in concluding that atmospheric, local, or individual causes are exclusive or paramount. The measures necessary to prevent or modify a recurrence of similar epidemic maladies, in future seasons, next occupied the author's attention. On this head he said that intra-mural interments must be put down throughout the country; the physical well-being of the population, especially the labouring portion, must be improved; low and damp situations ought to be rendered more salubrious; the light of the sun and the admission of pure air must not be

taxed; a plentiful supply of good water ought to be obtained, particularly in densely crowded neighbourhoods; and all nuisances, either public or private, should be abated; whilst vested rights and individual interests should give way to the health of communities; for here "salus reipublicæ" is "suprema lex." On such questions as these there can be no mistake—there ought therefore to be no compromise. The symptoms, pathology, microscopic or chemical examination of the fluids, as well as the treatment of cholera, were not entered upon by the author, but left for future occasions. And as the disease is now almost universally admitted to be non-contagious, and his (Dr. Webster's) own opinions being also decided thereon, this part of the subject was not mooted in the paper. Dr. Webster then proceeded to give some very satisfactory examples respecting the immunity of particular public institutions, and of various classes of individuals, from the recent epidemic, although living in the worst localities and exposed to even some of the most noxious influences. Of these exemptions, Bethlem Hospital was first adverted to, where no case of cholera had occurred amongst a constant population of about 700 persons, of whom upwards of 400 were insane; and as frequent changes occurred amongst the inmates, near 1000 persons had been thus exposed. This remarkable exemption of Bethlem Hospital was doubtless owing to its excellent ventilation and cleanliness; the plentiful, wholesome, and regularly-served food; the abundant supply of good water from a deep Artesian well, and other hygienic measures regularly maintained. Bridewell Hospital had also been free from cholera, although situated near Fleet Ditch, Puddle Dock, and Bride Lane, where, as also in houses in the immediate neighbourhood of the prisoners' cells, the epidemic had proved very fatal. In Coldbath Fields' House of Correction, having a population usually about 1200, no case of cholera had occurred, whilst the inmates had been recently particularly healthy, and only two cases of illness were last week in the infirmary. Amongst the household troops of London, although fatal cases of cholera had occurred, the military of the metropolis, generally speaking, had seldom been in a better condition of health than they enjoyed during the recent epidemic. One fact was also instructive, from being analogous to the experience met with amongst the general population—namely, out of six deaths by cholera, five came from the Tower, and only one from a a West End Barrack. The metropolitan police, consisting of 5600 men, furnished similar results: since, out of twenty-seven persons belonging to the force, carried off by cholera, not less than twenty did duty on the south side of the Thames; whilst of these, eleven died in the Borough or its vicinity, and three in Lambeth. Five policemen fell victims to the epidemic in the north-eastern portion of the metropolis, two died in Westminster, one being on the river; but not a single fatal case by cholera was met with amongst the police throughout the whole north-western districts. The deductions which may be justly drawn from the above important and authentic facts are most conclusive. At the Dispensary to which Dr. Webster is attached, and where the sick applicants mostly belonged to the parish of St. James's, and the upper divisions of St. George's, Hanover Square, amongst 3252 patients treated by his colleagues during the last six months, not one fatal case of cholera had been met with; and it is besides remarkable, that the aggregate number of patients under treatment at this institution was fewer than during the last three months, particularly in September, than throughout the previous quarter, comprising April, May, and June of the current year. Further, as an additional gratifying illustration that cholera had not been so virulent amongst all classes as many persons otherwise supposed, at insurance offices, although deaths by the recent epidemic have been reported at particular offices, the general mortality from all diseases, amongst the persons insured, had ranged, generally speaking, less than ordinary. At the Insurance Company in London to which Dr. Webster was the medical adviser not only had no death by cholera been reported, but the casualties from ordinary diseases were under the average; and as similar statements had been made to the author by other parties, especially by Mr. Neison,—a great authority on such subjects,—the opinions now expressed must be correct. In concluding his communication, Dr. Webster made a short reference to Sydenham, especially when speaking of cholera morbus being so very epidemic during 1669, in which year not less than 4385 persons died, according to the old bills of mortality, by "plague, or gripings in the guts," which indubitably was the cholera alluded to by the above-named celebrated physician, although that appellation is neither before nor afterwards employed in any of these ancient documents. During the year 1670, the epidemic proved fatal to 3690 persons in London; but it declined considerably for the remainder of the seventeenth and beginning of the eighteenth century: so that exactly one hundred years ago—viz. in 1749—the amount of deaths recorded was not more than 148; whilst in 1793 the number of fatal cases from the same cause fell to only 14, in a total mortality, by all diseases, of 21,749, throughout one million of inhabi-

tants, at that period resident in the metropolis.

Mr. HARDING said that no case of cholera had occurred at St. Pancras Workhouse, although that establishment contained fourteen hundred persons. The supply of water was from an Artesian well.

Dr. CORMACK said, that notwithstanding the appalling mortuarydetails which had been laid before the Society, the general inference from all the facts adduced was this—that cholera was a disease pre-eminently under the control of a well-directed system of preventive medicine and sanitary police. Be it granted that the pestilence has travelled to us from the far East, and that in addition to Dr. Webster's four causes—viz. 1, atmospheric; 2, local; 3, constitutional; 4, exciting—there must be added, as an essential, the existence of a specific poison, or, as some would have it, a specific atmospheric constitution; yet we find, that when it does reach our shores, it can find no victims except amid the vapours of graveyards, cesspools, and open sewers, or in the neighbourhood of rivers. It appears, then, that though a pervading epidemic influence may be necessary, yet the atmospheric causes, which are of real practical importance as regards the prevention of the disease, are of a very limited and local nature, and partake of the character of those miasmata which give rise to pernicious fevers. These, when only endèmic, may assume the intermittent type, but every few years they assume the graver form of remittent or continued fever. Miasmata, then, seem to be all-potent in the generation of cholera, as well as of the diseases already adverted to. Many years ago, Moscati found that air collected during the night from the insalubrious rice-fields in the north of Italy was heavier than other air; and that, when it was condensed, it showed albuminous flocculi of cadaverous smell. Analogous observations have been made by many others in different parts of the fever districts of Italy; and is it not possible that the living organisms observed at Bristol by Drs. Brittan and Swayne (or others of a similar nature), might have been found by the Italian physicians had they used sufficiently powerful microscopes, and had they been acquainted with the characters of microscopic fungi? It is not necessary, however, to make out the existence of microscopic fungi, or confervæ, in districts where cholera and intermittent fever prevails, to establish the pathological relation of the two. The history of past epidemics, as well as the facts at the present moment under observation, alike testify to this great truth. Comparetti, of Padua, in 1765, described cholera, such as has prevailed during the last month in London, under the name of *febre perniciosa collerica sincopale*. Torti, of Modena, and Raimond Restaurant, describe the same disease; and in 1680, the latter physician treated choleraic intermittent fever by cinchona. Laudanum and cinchona were the medicines in which Comparetti trusted. These physicians speak of the severity of the disease being so great, that the patients sank in the cold stage of the first paroxysm. Dr. William Currie, of Philadelphia, speaks of cholera with regular periods like a tertian. This brings us to observe, that their views were identical with those more recently, and so clearly and philosophically developed by Dr. James Bird, Dr. Charles Bell, and others. The remittent and intermittent type of cholera, Dr. Cormack remarked, can be best seen when the disease is studied in families, and in a district, from house to house; cases slight and serious being equally valuable in supplying the full natural history of the malady. From observations of this kind, Dr. Cormack was firmly impressed with the conviction that cholera was a remittent or intermittent fever—that the recoveries from the cold or collapse stage were to be attributed, not to the therapeutic action of medicines administered, so much as to the inherent or essential character of the disease; or, in other words, that the collapse of cholera and the cold stage of a simple ague, had alike a tendency to end in reaction. In both cases, provided the functions of life were not at a complete standstill, some good might arise from the application of heat to the surface, the administration of internal stimuli—such as camphor—the restraint of the serous exudation from the intestines by means of astringent enemata, and above all, the modification of the character of the fever by means of quinine. In addition to the clinical and other facts already mentioned, certain experiments of Magendie might be cited. That physiologist injected a small quantity of putrid water into the veins of dogs; and he states that among the intestines there was found an exhalation of a matter in colour resembling the water in which meat has been washed, and which adhered to the mucous coat of the intestine. This he regarded, not as an intestinal secretion, but as a part of the blood itself. As such, Dr. Cormack regarded the serous stools in cholera; they were really and truly hæmorrhagic phenomena, and required, as such, to be treated by astringents. To allow them to proceed unchecked, under the idea that morbid matter was being eliminated, was an error which it only required a little practical contact with the disease to dissipate. Dr. Cormack concluded by stating, that while in each case the special symptoms might require special modifications of treatment, the key-stone to the successful management

of the disease was this—to bear in mind that cholera was a fever, and that the serous purging was an exhausting hæmorrhage.

MEDICAL SOCIETY OF LONDON.

October 1, 1849.

Mr. Hancock, President.

At this meeting a paper was read by Mr. Hunt, entitled

A peculiar tendency to Hæmorrhage in certain individuals, and its predisposing causes.

The author restricted his observations to those hæmorrhages which appeared to depend more upon the state of the circulation than of the blood; and related cases illustrative of four different conditions of the circulation, which became so many predisposing causes of hæmorrhage; viz. deficient contractility, increased momentum, nervous exhaustion, and local heat. The object of the paper was practical, and it was the author's aim to show, that these various and opposite causes of hæmorrhage ought to be well considered in deciding upon the treatment. In the case of deficient contractility which was observable in some individuals, who would bleed for hours from a slight punctured wound, or even a scratch, and in whom it was dangerous to apply leeches, mechanical pressure where it could be applied was recommended as the only remedy to be relied on. In the case of increased momentum of the circulation in connection with general plethora, in which the hæmorrhage generally stopped spontaneously, after perhaps a frightful loss of blood, it was shown to be highly necessary, especially in cases of pregnancy (as recommended by the late Dr. Gooch), to prevent the occurrence of the hæmorrhage by timely depletion and low diet. In the third case, in which, after delivery, or consequent on the shock of severe accidents or operations, the motor power of the nerves becomes paralysed, and want of contraction occurs, not as an idiosyncratic affection, but as a temporary deficiency, the sudden application of extreme cold, or irrigating the uterus by a stream of cold water, was proposed as the best practice. The same practice, varied according to circumstances, was recommended in the fourth kind of hæmorrhage, viz. that accompanied by local heat. The sensation of distressing heat, not attended with inflammation, was shown by cases to be a not unfrequent cause of hæmorrhage from various organs. The author acknowledged himself unable to explain the *rationale* of this occurrence. In one of these cases a woman was attacked, some hours after a natural labour, with a most alarming flooding, and complained of an intolerable sensation of heat in the uterus. Jugs of cold water poured upon the abdomen failed to relieve the sensation, which was at length subdued, and the hæmorrhage arrested by a stream of cold water injected into the uterine cavity.

Correspondence.

IS THE CHOLERA CONTAGIOUS ?

Sir,—The question which I have placed above may truly be called "*questio vexata.*"

I had some opportunity of watching and studying the introduction, progress, and symptoms of the epidemic cholera as it appeared in the city of Londonderry in the year 1832 : what I there observed inclined me very much to the belief that the disease is contagious, and is propagated by contagion. I am still of the same opinion. Some of the facts which brought me to this conclusion I beg to submit to your readers.

Your obedient servant,

J. H. Babington, M.B.
Fellow and Licentiate of the Royal College of Surgeons in Ireland ; Medical Officer, Coleraine Union Workhouse and Fever Hospital.

Coleraine, Oct. 2, 1849.

In the month of September, 1832, cholera was raging in Glasgow : between Glasgow and the city of Londonderry, an extensive traffic, with almost daily intercourse, was carried on by means of regularly plying steamers with goods and passengers.

In the same month the disease was raging in the town of Coleraine, situated due west of Londonderry, and also in the town of Sligo, which is north-east of Londonderry. About the first of the month the guard of the Sligo and Derry mail coach was seized with all the symptoms of cholera as he came off the coach at six o'clock P.M., and died in the course of the night. About the same time a woman who had come from Coleraine, and whose sister had died of cholera in that town, came to Derry, was attacked with the disease, and died. The apartments in which these persons were ill, were cleansed and purified, and no other case occurred for some time.

On Saturday, the 8th September, 1832, a girl named Eliza M'Keown, who had been visiting relatives in Glasgow, returned to Londonderry, and took lodgings in a room in the house No. 75, Fountain Street, occupied by Bernard Duffy and his wife. M'Keown brought with her a bag of old clothes, which she was much engaged in sorting and arranging; in this she was assisted by a little girl (Eliza Ballentine) servant to a Mr. Mehan, living at No. 55, Fountain Street, and by Duffy, in whose house she lodged, and by another girl named Anne M'Ilwaine.

On the night of Tuesday, the 11th September, Duffy was attacked with all the symptoms of Asiatic cholera, but did not apply for medical assistance till he was blue, and in collapse. About the same hour, on the same evening, Eliza Ballentine was attacked in Mr. Mehan's house with severe vomiting and diarrhœa, and was removed to her parent's residence: when medical aid was applied for, this girl was in collapse. The girl Ballantine slept in the same bed with one of Mr. Mehan's children. On Friday, 14th September, Mr. Mehan's child was attacked with all the symptoms of the disease; and on Monday, Sept. 24, Mr. Mehan's servant, who had most assiduously attended the child, was seized with very violent premonitory symptoms, was removed to the cholera hospital, and recovered.

On Wednesday, September 12th, Anne M'Ilwaine (who had assisted at the sorting of the clothes from Glasgow) was taken ill and died. She was blue and in collapse when visited; and on the 15th her brother Hugh, who had slept in the same bed with her, was taken ill with all the symptoms of the disease, and died.

Many other cases could be added to show that the disease is propagated by contagion, but enough has been stated to prove that the disease was introduced into Londonderry in a bag of infected clothes from a diseased locality, and was certainly propagated by contagion.

*** We entertain no doubt that the disease is communicable from one person to another, and that it is capable of being transported from one locality to another by individuals labouring under it. The Board of Works have adopted the doctrine of non-contagion, apparently because it is expedient, and because it is in accordance with the views of the commercial party.

ON THE CHOLERA SPORULES.

Sir,—The subject of the so-called cholera sporules has become of sufficient general interest to induce me to communicate the following facts which I have observed during the last few days in relation to them. In the present stage of the inquiry, I submit these facts to you, satisfied that if you think them important, the publicity you will give them will quickly obtain either corroborative evidence, or a speedy explanation of the accidental conditions of the appearance of these sporules in the urine of a dyspeptic patient, and their non-appearance in the serous discharges of a cholera sufferer, till an hour or two after the excretion of these fluids from the bowels.

On the 27th of September, I was engaged in examining the urine of a patient suffering from symptoms suspected to be connected with oxalate of lime. The urine had been passed about twenty-four hours. While searching for the crystals of the oxalate, the appearance of some annular formed cells or sporules, some with minute nuclei, attracted my attention. The field of the microscope presented these sporules among many crystals of the oxalate, and some epithelial cells and mucous globules. Struck with their appearance, I sketched them in pen and ink at the time of observation. On the following day, Friday, I first saw in your journal the figures of the cholera sporules illustrating Dr. Brittan's paper. I was forcibly impressed with their similitude to those I had sketched the previous day; and, on returning home, I was able to verify this impression by a re-examination of a small portion of the urine still remaining in an unemptied phial. Desirous of examining the cholera sporules from some cholera fluid, I obtained the serous discharges of a male patient, æt. 12, who was collapsed, pulseless, cold, and livid. In less than half an hour this fluid was under microscopic examination, and the appearances were similar to what I had observed in previous examinations of this fluid,—abundance of broken-down epithelium, mucus globules, and disintegrated fibrine, and a few bead-like aggregations of minute crystals of oxalate of lime. The appearance of these crystals in the serous discharges of cholera has been observed also by Dr. Waldo Burnett, (American Journal of Medical Sciences, July, 1849.) I could detect no cholera sporules, after a very patient examination of more than an hour. Four hours after, the appearances in the field of the glass were similar; one or two cholera sporules were now visible, and as successive drops of fluid were submitted for examination they became more numerous. Fourteen hours after, similar appearances to those first observed, with the addition of numerous prismatic crystals of the triple phosphate, and the cholera sporules, had become very numerous: they were more abundant in the shreddy membranous portions to which they seemed attached.

Tuesday, Oct. 2d, fourth day.—Fluid in a state of most offensive decomposition; all trace of sporules had disappeared; much shreddy membranous débris, like broken-up and decaying fibrine; millions of vibriones in active motion; nothing else, after a very patient examination of many successive portions of the fluid, could be detected, but these animalcules, and the decomposing membranous structures. On Monday, Oct. 1st, I again examined the serous fluid from another cholera patient, and within the first three hours I could not detect any sporules in successive portions of the fluid: in about four hours they first became visible; in

ten hours they were abundant, with many crystals of the triple phosphate; and on the the third day they were displaced by the ordinary vibriones of decomposing animal fluids.

If these observations be corroborated, they will show that these cholera sporules cannot be the cause or essence of the cholera disease, although they may be its accompaniments; for they appear to be produced in other animal fluids unconnected with this disease, and they are not apparent in the cholera discharges until a certain period after the evacuation of these fluids from the body. Their presence in the fluid contents of the intestines after death proves nothing; for they may be developed there, just as they are developed out of the body, by the spontaneous change to which the fluid itself is destined to undergo. Similar remarks will apply to the vibrones that have been mentioned as appearing in cholera fluids (London Journal of Medicine, Feb. 1849, and Oct. 1849): as if these animalcules were not common to all decomposing animal fluids. Urine of a healthy character, or containing a large proportion of urea, which in its decomposition generates carbonate of ammonia and other ammoniacal salts, does not appear to favour their development; but urine that contains much mucus, or albumen, or pus, will, if kept long enough, generate them in great abundance. They appear almost simultaneously with hydrosulphuric acid and its compounds; and all fluids that decompose into hydrosulphuret of ammonia and its allied compounds, promote most rapidly the development of these vibriones.

Attention to the subject of sporules in organic fluids will, I think, soon detect an almost infinite number of forms; some, perhaps, produced and generated only at certain seasons,—others specially belong to certain animal or vegetable fluids.

I have this morning observed some sporules on urine that is strongly acid, sp. gr. 1·018, and abounding in stellated crystals of the uric acid. They are quite new to my eye as an urinary product. They are somewhat like the torulæ of diabetic urine, but they want the true confervoid character. They are oval cells, arranged by their long diameter in a bead-like form, with minute granules or cellules developing themselves from the surface and junction of the parent cells. I shall watch their growth; and if further observations upon the subject of these sporules be thought interesting, I shall have much pleasure in reporting the result of my investigations.—I am, sir,

Your very obdient servant,

W. R. Basham.

17, Chester Street, Grosvenor Place,
October 6, 1849.

A PLAN TO INSURE RAPIDITY AND UNIFORMITY IN CHOLERA CASE-TAKING.

Sir,—In Oct. 1848, the Western Medical and Surgical Society of London issued a tabular form for uniformly reporting cases of cholera. In this form a space is allowed for preliminary inquiries—for successive observations of the symptoms in detail—and for recording the condition of each organ at an examination after death.

I have considered, however, that practitioners desirous of noting cases of cholera would have their labour facilitated if a similar list of symptoms, inquiries, &c., were printed, as is here done, with a letter or number prefixed to each. The letter or number being taken to represent the question or symptom against which it is placed, the observer would then merely have to write on a piece of prepared skin or paper, *e. g.* "2. *anxious;*" "3. *contracted;*" "4. *moist;*" "5. *cold, &c.;*" and on the reverse of the skin, the prescription. Much time would thus be saved at the bed-side, and the case could be written out in full at leisure, or entered upon the larger form of the Society.—I am, sir,

Your obedient servant,

Francis Seymour Haden.

62, Sloane Street, Oct. 5.

Number of Case—Date—Name and Occupation—Sex—Age—Habits and Previous Health—Residence—Locality — high, low, moist, or dry—Proximity to Rivers, &c. —State of Drainage.

A—Supposed exciting cause of the attack. *B*—Diet within the preceding twenty-four hours. *C*—State of stomach. *D*—State of bowels. *E*—Other ailments. *F*—Medicine already taken.

CHARACTERISTIC SYMPTOMS.

1. *Hour of first appearance?*
2. *Countenance*—Expression of?
3. State of the Pupils?
4. *Tongue*—appearance and condition of?
5. Temperature of?
6. *Skin*—Generally or locally, appearance of?
7. Condition of (as to secretion)?
8. Temperature of?
9. *Pulse*—Volume and character of?
10. *No. of*, whether felt at the wrist?
11. in the axilla?
12. in the carotids?
13. *Heart*—Stethoscopic examination of?
14. *Voice*—As to the tone and power?
15. *Respiration*—Frequency of?
16. Free or laborious?
17. Relative duration of inspiration and expiration?
18. *Breath*—Temperature of?
19. *Vomiting*—Its character and frequency?

20. *Stools*—Their quantity and frequency?
21. Their character, colour, and consistence?
22. *Cramps*—Nature, frequency, and parts affected?
23. *Thirst*—Urgent or tolerable?
24. *Urinary secretion*—State of?
25. *Nervous system*—Affections of?
26. Degree of consciousness?
27. Deafness?
28. Noises in the head?
29. Loss of vision?
30. Convulsions?
31. *Termination of the case*—In gradual or sudden recovery? In consecutive fever, or in death?

POST-MORTEM EXAMINATION— HOURS AFTER DEATH.

External appearance of the body.

1. Colour—temperature—rigidity?
2. Any muscular twitching after death? its duration?

ENCEPHALON.

3. Degree of congestion?
4. Effusion, its nature and seat?
5. Other lesions?

THORAX.

6. *Pericardium?*
7. *Heart*—Degree of rigidity and flaccidity of each ventricle?
8. Contents of each ventricle as to quantity?
9. Condition of blood as to fluidity and colour?
10. If fluid, does it coagulate on exposure?
11. *Lungs*—General condition and appearance of?

ABDOMEN.

12. State of the Peritoneum, and of the abdominal cavity?
13. *Liver*—Condition and appearance of?
14. *Gall Bladder*—Nature and quantity of its contents?
15. *Gall Ducts*—Condition of?
16. *Stomach, duodenum, small intestine, cæcum, colon, and rectum*—Contents of, respectively?
    Are they acid or alkaline?
    Condition of the mucous membrane of, respectively (*with regard to appearance and state of glands*)?
17. *Spleen?*
18. *Kidneys?*
19. *Urinary Bladder*—As to contents and degree of contraction?

VASCULAR SYSTEM.

20. Aorta and venæ cavæ.
21. Pulmonary artery and vein.
22. Femoral artery and vein.
23. Hepatic, gastric, splenic, mesenteric, and renal artery and vein.
24. General condition of whole vascular system, especially as to congestion, &c.

ON THE PREMONITORY SYMPTOMS OF ASIATIC CHOLERA.

SIR,—In *The Times* of Wednesday, October the 3rd, I notice an elaborate letter from the highly talented Mr. R. D. Grainger, (Superintending Medical Inspector of the General Board of Health), "on the efficacy of preventive measures in cholera," wherein he states that, "in an investigation which has embraced every parish and union of the metropolis, the following facts have been firmly established:"—

"1. That the large majority of attacks of cholera are preceded by a premonitory stage of some hours' or some days' duration, and consisting of diarrhœa or vomiting, or of both combined; the cases in which these are absent being strictly exceptional."

"2. That these diarrhœal attacks, at least so far as they are above the ordinary average of this season of the year, are strictly and essentially a part and parcel of the epidemic, and would, if not timely controlled, often run on into the worst form of the disease."

Having had extensive opportunities of witnessing the fearful pestilence in 1831 and 1832, in addition to the sad experience of the last three months, I venture to say, to the best of my judgment and belief, *there are no premonitory symptoms of "Asiatic cholera."*

Between the 26th of July and the 12th of September, I was called to *eleven* cases of decided Asiatic cholera, of which *eight* proved fatal, and at the end of the following brief periods:—10, 13, 14, 8, 19, 7, 13, and 11 hours.—*Average, less than* 12 *hours!* During the same space of time, I was consulted in more than *one hundred* cases of "diarrhœa," *not one of which merged into developed cholera, and only one died*, an infirm woman, aged 71, which fact induces me to marvel at the immense number of deaths recorded in London, and elsewhere, from "diarrhœa," and to ask of my medical brethren for some explanation upon this important, and to me perplexing point. I ought, perhaps, to mention, that the cholera cases were treated upon the calomel and opium system; the diarrhœa cases by sedatives, alteratives, and mild aperients—*no compound chalk mixture*, which, (like that little instrument, the lancet), has, I believe, killed more than the sword! In conclusion, I desire to state, that the results of the last three months (although very startling) have not induced me to alter my opinion, *that*

Asiatic cholera is not infectious, or contagious, either before or after death, no more than bilious remittent fever (miscalled "typhus"), a disease generally within the control of medicine and diet, and which very rarely proves fatal in this healthy locality.

Your obedient servant,

JOSHUA WADDINGTON,
Fellow of the Royal College of Surgeons of England; Consulting Surgeon to the Royal Sea-Bathing Infirmary.

Margate, October 13th, 1849.

THE CHLORIDE OF ZINC AND CHLORIDE OF LIME AS DEODORIZERS.

SIR,—My attention having been called to a paragraph in the MEDICAL GAZETTE of Friday the 28th ultimo, in which it is stated that I presented a memorial to the Lord Mayor, I have to request you will allow me to explain that the document which I presented was not of the nature of a memorial; neither was it from Sir William Burnett. It was simply a letter from John Thomas Cooper, Esq. to myself, having reference to the quantity of Sir William Burnett's solution of chloride of zinc requisite to deodorize a given quantity of night-soil.

The writer of the paragraph referred to observes that it is not possible to understand how the chloride of zinc acts, except by being brought in direct contact with the solid and liquid substances which evolve sulphuretted hydrogen. This, I may be allowed to explain, is precisely the way in which the solution has been most beneficially used; and as in disease prevention is better than cure, so likewise is it better to prevent the evolution of unwholesome gases from putrefying liquids and solids, than to destroy them when they have been liberated and mixed with the common air.

So decidedly advantageous has the solution been found to be in suppressing the offensive smell of bilgewater on board ships, that there is not now a vessel of war permitted to go to sea without an adequate supply of it. Since the autumn of 1847 it has been largely employed in cleansing cesspools, &c. in all parts of the metropolis; and with the most unequivocal results.

In a return to an order of the House of Commons, in June 1848, with reference to the reports of the surveyors to the Metropolitan Commissioners of Sewers, it is stated that "previously to commencing the cleansing the stench was most obnoxious; but upon a solution of Sir W. Burnett's chloride of zinc being thrown upon the surface of the soil, and upon the paving and the walls around, it had the desired effect of destroying it; nor did any unpleasant smell arise during the process of removal." Another report, in the same return, states that "Sir William Burnett's disinfecting fluid had answered the purpose of destroying the offensive effluvia in every instance." And in the third report of the Metropolitan Sanitary Commissioners, presented to both Houses of Parliament, which may have escaped your notice, it is thus referred to:—"The operation," viz. deodorizing offensive matters, "has now been performed in more than a thousand instances, in every part of the metropolis, without, so far as we have been able to ascertain, any complaint as to the nature of the process, or of its being followed by any injurious consequences; on the contrary, there is positive and decisive evidence, to which we shall have occasion again to advert, of more direct and immediate effects in the diminution of disease, than could have been expected from one only of several sources of disease being removed."

The Inspector of Nuisances in the parishes of St. Margaret and St. John, Westminster, being asked (vide p. 10)—"Do you understand whether the health of the poorer districts cleansed has been better or worse recently?" answered, "Better, decidedly." In the same page it is stated that "The returns in relation to the effect of the partial cleansing made to the Metropolitan Commissioners of Sewers, are decided and satisfactory." From the evidence of Mr. Bowie, the surgeon, "who made a special investigation as to the results of the process on a large range of district," several statements are quoted, to the effect that "before the privies were emptied there had been a great deal of sickness and some deaths from fever; but that after the cleansing took place there had not been a case of fever, nor a single death." (vide p. 10, "Guilston Court.")

With respect to the comparative value of the solutions of the chloride of zinc and chloride of lime, I am enabled to speak from experience; and feel confident, if you will favour me with your presence at any convenient spot where they can be tested, that I shall have but little difficulty in convincing you of the superiority of the former over the latter as a deodorant. To the lime there are many objections. The chlorine which it gives off is to some people extremely offensive, and to others hurtful, if not dangerous, from its effects on the lungs; besides, its acrid and bleaching properties render it totally inapplicable within doors where there is any article of furniture of the slightest value: its effects are infinitely more evanescent than are those of the zinc.

It may appear like presumption in me to offer any remark respecting the spread of contagious diseases, but this much I trust I may be permitted to state, that, as these diseases principally infect localities abounding

in offensive gases and putrid vapours, and decline in frequency and severity in proportion as the atmosphere is cleared of them, and as the vapour of the solution of Sir William Burnett's chloride of zinc diffused through the air (evolving a small quantity of chlorine) has the power of seizing on these noxious elements and converting them into determinate inoffensive compounds, there cannot be any mystery as to how it improves the sanitary condition of a place; nor can there be, so far as I can judge, any impropriety in urging its more free and frequent use in every corner of the metropolis where there are foul effluvia, and where cholera and fevers prevail.—I am, sir,

Your most obedient servant,

CHAS. JACKSON.

London, Oct. 6, 1849.

*** The chloride of zinc, as we have elsewhere stated, is to a certain extent serviceable in preventing the evolution of foul effluvia from *solid and liquid matters* in a state of decomposition. In the case last supposed by this writer, *i. e.* in localities where offensive gases and putrid vapours abound, it will, we believe, prove utterly useless. According to our observations, a solution of chloride of zinc gives off no more vapour than chloride of sodium, and therefore cannot act as a disinfectant of foul air. It evolves no chlorine when properly prepared: a chemist would as soon expect to find zinc in the atmosphere as chlorine. We hold, therefore, contrary to the view taken by the writer, and from actual experiment with chloride of zinc, that it is to us a very great mystery how, in opposition to all the laws of chemical combination, the chlorine is to detach itself from the zinc, to seize the noxious elements in the air and convert them into determinate and inoffensive compounds! This is an extravagant hypothesis, and does harm to a really useful discovery employed in the way for which alone it is fitted, namely, in fixing the foul effluvia from putrescent *solids* and *liquids*.

The chlorine evolved from manganese or chloride of lime is the only agent adapted for removing noxious effluvia already diffused in the atmosphere. With the new apparatus described at page 392, the gas may be evolved without injury to health, and articles of furniture should always be removed when disinfection is absolutely necessary.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 12th inst.—F. G. Sadd—R. Tassell—G. C. Knight—P. J. Vander Byl—R. Growse—T. H. Mayne—S. K. Burch—J. Walker—W. F. Fryer.

Medical Intelligence.

PROPORTIONATE NUMBER OF DEATHS FROM CHOLERA IN THE DIFFERENT DISTRICTS OF THE METROPOLIS.

THE following is a table showing the comparative mortality from cholera in every district in London and its environs, in proportion to the population, from the 16th of September 1848, to the 6th of October 1849, from the returns of the Registrar-General. Total population, 2,206,076 :—

District.	Deaths from Cholera.	Proportion to Population.
Rotherhithe	370	1 in 37½
Bermondsey	761	1 — 52
St. Olave's Union	362	1 — 54½
St. George's, Southwark.	860	1 — 60½
St. Saviour's and Christchurch, Southwark	539	1 — 61
West London	428	1 — 68
Newington, Surrey	924	1 — 69
Lambeth, Vauxhall, Kennington, Brixton, and Norwood	1640	1 — 87½
Wandsworth, Battersea, Clapham, Streatham, and Tooting	503	1 — 91½
Camberwell, Peckham, and Dulwich	530	1 — 98½
Bethnal Green	791	1 — 107½
Poplar	325	1 — 113
Shoreditch	775	1 — 124
Greenwich, Deptford, and Woolwich	752	1 — 125
Westminster	442	1 — 142
Whitechapel	539	1 — 143
Chelsea	262	1 — 184½
St. Giles	280	1 — 193½
Stepney	518	1 — 207
St. George's-in-the-East	205	1 — 210
East London	179	1 — 221
City of London	212	1 — 263
Holborn	160	1 — 277
Strand	157	1 — 277
Lewisham, Lee, Eltham, Charlton, and Plumstead	96	1 — 279
St. Luke's	184	1 — 281½
St. Martin's-in-the-Fields	84	1 — 298
Hackney	141	1 — 356
Kensington	260	1 — 378
Islington	194	1 — 397½
Pancras	351	1 — 439
Clerkenwell	125	1 — 525½
Marylebone	256	1 — 592¼
St. George's, Hanover Square	130	1 — 572
St. James, Westminster	58	1 — 643½
Hampstead	9	1 — 1273
Totals of London and environs	14,398	1 in 153

THE CHOLERA AT BIRMINGHAM.

MUCH has been said about the exemption of Birmingham from cholera, and one philosopher had gone so far as to ascribe this immunity to the superabundance of ozone in the murky atmosphere of this great mart of the manufactures in metals. It appears, however, from recent reports, that the exemption no longer exists.

Six deaths from decided Asiatic cholera have occurred in the insane ward of the workhouse in this borough (Birmingham). The last case occurred late on Saturday night, and an inquest was held at the Green Dragon in Litchfield Street, before J. B. Davies, Esq., coroner, on the body of the deceased, when a verdict of Died from Asiatic cholera was returned. In answer to questions, the surgeons stated that the workhouse was then free from the disease, and with the exception of some slight cases of bowel complaint, no other illness prevailed in the house.

The first death which occurred, from cholera in Birmingham was on the 7th of Sept. The total number of deaths which have resulted from that disease from that date to the present period is but 14, including the case above reported. Of that number of deaths eight have occurred in the workhouse, and the remaining five were chiefly strangers or casual visitants to the town. To allay unnecessary alarm, and correct exaggerated statements, the sanitary committee have come to the determination of publishing daily on the Town-hall and workhouse gate a return of cholera mortality.

Since this report was issued several other cases have occurred, but the disease has as yet shown no disposition to spread.

MEMBERS OF COUNCIL OF THE COLLEGE OF SURGEONS.

A MEETING of Fellows of the College of Surgeons is appointed to take place on Thursday, November 1st, for the purpose of electing two Members of Council to supply the vacancies occasioned by the resignation of Mr. Wellbank, and the death of Mr. Aston Key.

MICROSCOPIC DEMONSTRATIONS AT THE ROYAL COLLEGE OF SURGEONS.

THE annual course of microscopic demonstrations by Mr. Quekett, the conservator of the Museum, will commence on the 24th inst., in the Theatre of the Royal College of Surgeons. Members only have the privilege of attending these valuable demonstrations.

MEDICAL APPOINTMENT.

MR. PURNELL has been appointed Surgeon to the Royal General Dispensary, Aldersgate Street, in the room of Samuel Solly, Esq., resigned.

DISPENSARIES AND FEVER HOSPITALS IN IRELAND.

A PARLIAMENTARY paper recently published on the motion of Sir William Somerville, the Secretary of State for Ireland, shows that the number of dispensaries, fever hospitals, and infirmaries for which county presentments were made in Ireland in the year 1848, amounted to 773 (against 813 in 1847). The amount of presentments was £83,508, and the amount of subscriptions £33,393, making a sum total of £116,902. The total amount of the sums subscribed and granted for fever hospitals in Ireland at the presenting sessions preparatory to the spring assizes of 1849, was £7,885. The number of fever hospitals supported by the poor-rates in 1848 amounted to 233 under the temporary fever act, the cost of which was £81,448; and to 80 not under that act, the cost of which was £21,789.

FORGED CERTIFICATE OF QUALIFICATION AS A SURGEON.

A MOST extraordinary attempt at imposition has been brought to light during the last week in the case of a person named J. W. Bird, who was desirous of obtaining an appointment as surgeon in an emigrant ship. Trusting to the ignorance of persons connected with the Government emigration office, he produced the subjoined paper as a proof that he was a qualified surgeon :—

"Royal College of Surgeons, London.

"John William Bird passed his examination on the 12th day of July, 1827, having previously left for inspection his indentures and certificate of having attended his proper course of lectures as by act of Parliament required.

"MORGAN JONES
"MARTIN LUTHER } Registrars.
"JAMES DUKE, Mayor."

The cool manner in which the name of the great author of the Reformation is introduced, in conjunction with that of the Lord Mayor, as office-bearers in the College of Surgeons, indicates either insanity or an unusual amount of assurance.

The list of the College having been searched, and the name of this person not being found on the register, he was brought before the Lord Mayor upon a charge of forgery.

Mr. E. Belfour, secretary to the College of Surgeons, Lincoln's-inn-Fields, was called as a witness, and said that no such persons as Morgan Jones or Martin Luther belong to the college. We have no such officer as a registrar. The certificate produced is forged. I have belonged to the College since 1810, and I never recollect such names as belonging to it as Morgan Jones and Martin Luther.

An attempt was made to ascribe the act to insanity, but the accused was fully committed for trial.

THE SUPPOSED CHOLERA FUNGI PROVED TO BE UREDO FRUMENTI.

Mr. Busk, the President of the *Microscopical Society*, made an important communication to the Society on Wednesday evening last, relative to the nature of the bodies detected by Mr. Brittan and Mr. Swayne, in the cholera evacuations. He demonstrated that the large bodies, figured by Mr. Swayne are nothing more than a species of *uredo*, a kind of smut frequently present on wheat, and specimens of which Mr. Busk found in a loaf of brown bread purchased in Greenwich. The uredo is not destroyed, even by the action of caustic potash, and it readily passes unaltered through the intestinal tract. The smaller, so called annular bodies, are not, according to Mr. Busk, sporules in an earlier stage of development than the larger bodies (uredo), but are evidently starchy granules, derived from the bread eaten by the patients.

In addition to the uredo and the starchy granules, Mr. Busk demonstrated, in a specimen of cholera evacuation supplied by Mr. Swayne, the cellular structure of the inner coat of the bran of wheat.

The identity of the bodies in the cholera evacuation with the uredo and the bran of wheat was quite unequivocal, and there appeared every reason to think that the small annular bodies were, as Mr. Busk stated, merely starchy granules, derived from the bread previously eaten.

The uredo was present in the specimens of cholera evacuation supplied by Mr. Swayne, but it was not observed in those exhibited to the Society by Mr. Busk.

CHAIR OF MEDICINE AT THE UNIVERSITY OF ST. ANDREW'S.

At a meeting of the Senatus of the University of St. Andrew's, held on the 9th inst., Dr. George E. Day was unanimously elected to the Chandos Professorship of Medicine, vacant by the death of the distinguished physiologist, Dr. John Reid.

OBITUARY.

On the 13th inst., at Alton, Hants, William Curtis, surgeon, in his 30th year.

On the 24th of May last, after a few days' illness, at Adelaide, South Australia, James Tweeddale, M.D., Royal Navy.

At his residence, No. 7, Norland Place, Notting Hill, on the 15th inst., Samuel Proctor, Esq., M.D., late of Salisbury Square, Fleet Street, aged 64.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·54
" " " Thermometer[a] ..... 55·3
Self-registering do.[b] .... Max. 0·0 Min. 31·7

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·74 — Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 6°.4 above the mean temperature of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Oct. 13.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	658	Males....	510	Males....	583
Females..	613	Females..	565	Females..	579
	1271		1075		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	1075	1162
Specified Causes	1072	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	272	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	56	49
3. Brain, Spinal Marrow, Nerves, and Senses	89	125
4. Heart and Bloodvessels.....	34	40
5. Lungs and organs of Respiration	138	214
6. Stomach, Liver, &c.	52	65
7. Diseases of the Kidneys, &c.	12	11
8. Childbirth, Diseases of Uterus, &c.	13	10
9. Rheumatism, Diseases of Bones, Joints, &c.	6	8
10. Skin.....	1	1
11. Old Age	41	57
12. Sudden Deaths.....	12	12
13. Violence, Privation, Cold, &c....	14	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	6	Convulsions.....	21
Measles.....	8	Bronchitis	46
Scarlatina	56	Pneumonia	71
Hooping-cough	19	Phthisis	112
Diarrhœa.....	91	Lungs	6
Cholera.....	110	Teething	8
Typhus.....	47	Stomach	6
Dropsy	13	Liver.....	8
Hydrocephalus	19		
Apoplexy	24	Childbirth	7
Paralysis	16	Uterus	4

Remarks.—The total number of deaths was 87 *below* the weekly autumnal average. The total deaths have therefore undergone a very sudden decrease. The deaths from Cholera were only 110 (*i. e.* about 15 daily). In the preceding week they amounted to 288.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement*."

Communications have been received from Dr. Snow—Mr. Wm. Smith—Mr. Beckett—Dr. Merryweather—Dr. Brinton—Dr. Cogswell—Mr. Salter—Dr. Reid—and Dr. Routh. These papers will be inserted with as little delay as possible.

Corrigenda.—In Dr. Reid's letter, last No. page 636, col. 1, 15 lines from top, for "*anti-clorinic*," read "*anti-loimic*."

In the leading article, at page 627, for "authoritive," read "authoritative."

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXVIII.

AMPUTATIONS.—Continued.

AMPUTATIONS OF THE LOWER EXTREMITY.—*Amputations on the foot—preliminary considerations—Removal of the second, third, or fourth toes from their metatarsal bones—of performing the operation—precautions to be observed—Amputation of the great toe at the metatarsal joint—plan of procedure* (Vide Fig. 1)—*Removal of the little toe from the metatarsus—steps of the operation* (Vide Fig. 2)—*Amputation through the metatarsal bones of the great toe—the operation—its varieties—their comparative advantages—Amputation of the great toe at the tarso-metatarsal joint—steps of the operation—modification of the operation—case—Amputation of the metatarsal bone of the little toe at its articulation with the os cuboides—the operation—varieties of—Separation of the metatarsal bones from the tarsus* (Vide Fig. 3)—*precautions to be observed in forming the flaps, &c. Amputation through the tarsal bones—Chopart's operation* (Vide Fig. 4)—*points to be observed to insure success—Amputation of the foot at the ankle-joint—steps of the operation—comparative advantages of this operation—Arbitrary division of the foot* (Vide Fig. 5).

Amputations on the foot.—The great object in all the operations on the foot is to remove no more than is actually necessary, as it is a matter of great importance not to diminish the base of support so as to interfere with the ease and stability of locomotion. In the operations on the hand, an organ which is so constantly exposed to view, the surgeon's skill is exercised to produce as little deformity as possible; and this is even sometimes carried so far as somewhat to sacrifice a certain amount of utility, for the preservation of symmetry and goodly appearance, more especially when the subject of the operation is of the gentler sex: and this sacrifice is perhaps admissible when we consider that one hand is capable of assisting in the functions of the other, while, on the contrary, in reference to the foot, one can in nowise compensate for the defect of its fellow.

When the second or extreme phalanges of the toes are either so severely fractured or seriously diseased as to demand their immediate removal, it is usually recommended that the amputation should be performed at the metatarso-phalangeal articulation, from the belief that a remaining phalanx is more inconvenient, and offers a greater impediment to the future function of the foot, than if they be all removed; at the same time, it is often advisable that the head of the metatarsal bone should be preserved to maintain the natural breadth of the foot for the purpose of support to the body, in which respect this operation differs from the corresponding one on the hand, in which the main intention is to bring the fingers in close proximity to each other.

I am not of opinion that this rule should be invariably adhered to with respect to the foot, more especially in those cases in which we find the extreme or even second phalanx permanently contorted and flexed under the foot; and I believe that in these cases it is better to amputate through the phalangeal joint, as the phalanx which is left still affords some support during progression and standing, and is in fact never required, as the corresponding bone in the finger, to be submitted to flexion, and therefore its permanent extension offers no inconvenience, as in the hand.

Removal of either the second, third, or fourth toes from their corresponding metatarsal bones.—If amputated separately, the amputation is to be performed precisely in the same manner as has been described for the removal of the fingers—viz. by making two lateral flaps, and then cutting through the structures of the joint. If, from a severer injury, it becomes necessary to remove the three middle toes, it may be accomplished in the following manner:—The foot being well supported, the surgeon sittting in front, the great and little toes are to be abducted from those which are to be removed, and the operator, grasping them in his left hand, makes a semi-circular incision, commencing half an inch in front of the metatarsal bone of the second toe and terminating at the same distance in front of the joint of the fourth toe (the incision will cross the foot in the opposite direction if it be the right); this incision is to be firmly made down to the bones, cutting through the extensor tendons; and the flap being thus dissected back, the joints are easily exposed, and are to be successively opened, so that the toes may be removed; a horizontal incision is next to be made between the great and second toe, and between the fourth and fifth, carrying it sufficiently far back to terminate just behind the heads of the metatarsal bones, taking care that the incision is

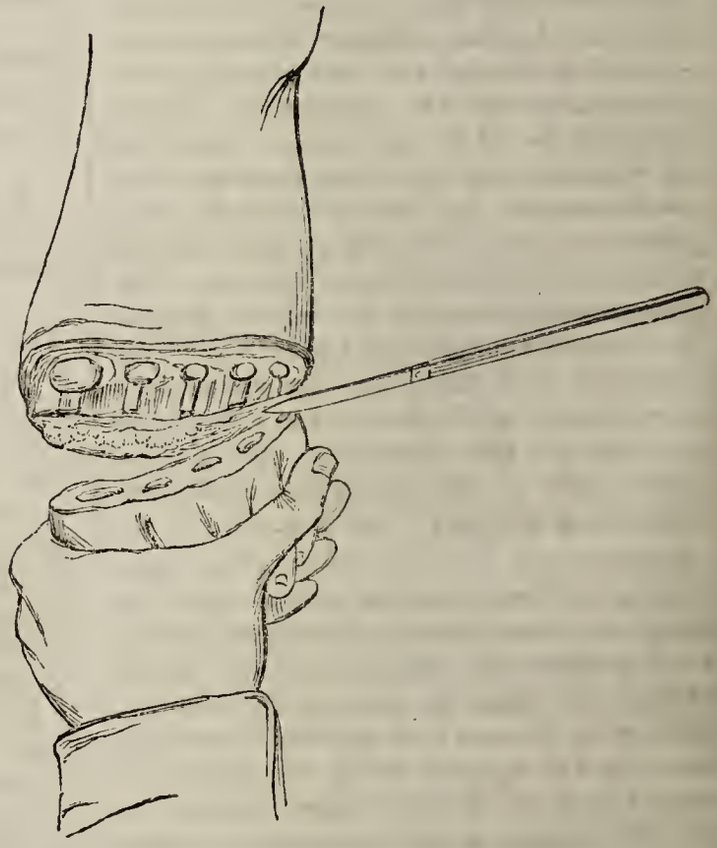
deep on the plantar as on the dorsal surface; the heads of the phalanges being then dislocated dorsa, the edge of the knife is to be passed behind them, the great and little toes being forcibly flexed, to be placed out of danger from the knife; the plantar flap may be made, and the three toes removed: the bloodvessels are next to be secured, and the edges of the flap being brought together by the twisted sutures, the operation is completed. If the surgeon prefer it, the lateral horizontal incisions may be the first made, and some advantage is gained by this mode of proceeding as far as refers to the facility of placing the other toes out of harm's way; but an objection may be urged, that a greater hæmorrhage results from these cuts, and therefore the later they are effected in the course of the operation the better.

Amputation of the great toe at the metatarsal joint.—This operation is very easily performed by the following method:—the foot being well supported, and the four outer toes abducted, an incision is to be commenced just behind the joint, and continued along the dorsum of the first phalanx, directing it obliquely outwards, and dividing the soft parts between the first and second toe; the incision is then to be continued under the former, and carried round so as to terminate where that began, thus forming two flaps, which are to be dissected back: the ligaments of the joint are next to be divided, and the toe may then be removed; the arteries are to be secured, and the flaps brought together so as to form a horizontal commissure. Some surgeons perform this amputation by making two lateral flaps, as in the amputation of the fingers; but with respect to the great toe I prefer the former plan (vide fig. 1.)

Amputation of the little toe from the metatarsus.—The little toe may be amputated by the same methods that have been described for the removal of the great toe, or all five toes may be removed by the same operation I have described for the removal of the second, third, and fourth toes, merely by the extension of the transverse incisions, and the omission of the longitudinal ones.

Fig. 1.

Fig. 2.



As it is by some surgeons considered a better mode of proceeding to amputate in the continuity of the metatarsal bones than at the articulations, and indeed as it may be necessary to adopt this mode in consequence of lesion or disease of the joint, I deem it right to describe the method of prosecuting this operation.

Amputation through the metatarsal bone of the great toe.—This is effected in the following manner: having first decided upon the point at which it is intended to saw through the bone, and then having seized the soft parts between the finger and thumb of his left hand, the surgeon separates them as far as he can from the inner side of the bone, and plunges a straight sharp-pointed bistoury perpendicularly through the foot between them, and just behind the point where he intends to saw through; he then carries the edge of the knife close to the bone be-

yond the metatarso-phalangeal articulation, and cuts out, forming his inner flap. The soft parts covering the outer side of the bone are next to be drawn as much as possible outwards towards the second toe, and the knife entered at the same spot as where it was first introduced, and being forced out at the sole of the foot, without making any second wound through the skin upon either the dorsal or plantar surface, it is to be carried forwards between the first and second toes, and the outer flap formed: these flaps being retracted, and the soft parts protected, the metatarsal bone is to be sawn through.

This operation may be modified by cutting from without to within, instead of transfixing, if it be preferred by the operator: the following plan must in that case be adopted.

The first incision is to be made in the inner side of the metatarsal bone to be removed (commencing immediately behind the point where the bone is intended to be sawn through): it is to be continued forwards and towards the plantar surface of the great toe, so as to cross the metatarsal joint, and terminate on its plantar surface just in the space between the great and second toes: a second incision is commenced at the same point as the first, to pass forwards along the dorsum of the toe, slightly inclining outwards, so as to terminate at the same point as the other incision: the flaps thus formed are then to be retracted, the toe separated from the surrounding parts, and the bone sawn through; the vessels are then to be secured, the soft parts brought together, and the operation is completed: either of these operations answers equally well for the amputation through the metatarsal bone of any of the toes, and the kind of injury which would tend to the necessity for such operation is frequently severe—such as those produced in railway accidents, gun-shot wounds, or from heavy weights falling upon the foot.

Amputation of the great toes at the tarso-metatarsal joint.—The first object is to discover the precise situation of the articulation between the internal cuneiform and metatarsal bone of the great toe. The situation of the joint being ascertained, the foot is to be firmly secured, resting rather on its outer edge, and an incision is to be commenced on the dorsum of the internal cuneiform bone, just behind its articulation with the metatarsal bone: this is to be continued forwards as far as the base of the first phalanx of the great toe: a second incision is then to be made, commencing from the under and inner edge of the internal cuneiform bone, terminating at the inner edge of the base of the first phalanx: the terminations of these incisions are to be united by a cross cut, and the whole flap dissected back to its base, which is attached to the internal cuneiform bone. The edge of the knife is then to be placed midway on the web between the great toe and second toe, and carried backwards close to the first metatarsal bone, as far as its articulation with the cuneiform bone, and then drawing the point of the knife upwards, so as to unite the termination of the second incision with the commencement of the first: the tendon of the extensor longus pollicis is then to be cut through, the tarso-metatarsal joint opened, the toe forcibly extended, and the two bones separated: the tendon of the peroneus longus is then to be cut through, and the metatarsal bone liberated from its further attachments. In making the second or outer metacarpal flap, the intermediate soft parts should be drawn outwards as much as possible, to secure the formation of a sufficient flap.

It has been recommended by some surgeons to commence the operation by first forming the outer flap, and having continued it as far back as the cuneiform bone, the metatarsal bone is to be drawn forcibly inwards to facilitate the admission of the knife into the joint, which it is made to traverse from without to within: the inner flap is then formed by carrying the knife round the articular surface of the metatarsal bone, and cutting away all the soft parts connected with the inner surface of that bone. The objection to this operation is, that but a scanty internal flap can be formed, in consequence of the great breadth of tarsal extremity of the metatarsal bone of the great toe.

If it be desired to amputate through the continuity of the metatarsal bone, the same operation as I have first described may be performed, all the steps being similar, with the exception of the joint not being opened, but the commencement and termination of the incisions being determined by the points at which the surgeon intends to saw the bone through. One advantage is gained by the operation in the continuity of the bone, where circumstances will admit of it, that the insertion of the peroneus longus muscle may be left intact, and that a firmer base may be given to the inner side of the foot, which is essentially important to the act of progression. The following is a case of amputation at the tarso-metatarsal joint:—

Elizabeth Whitgrove, æt. 19, admitted into Guy's Hospital, Feb. 27, 1849. Twelve years before, she had fallen downstairs, and injured her right foot; since that time the wound had opened afresh about every three or four months: when she came into the hospital it was very painful, and there was an abscess at the base of the great toe, also a small opening on the front and inner side of the foot. It was at once decided that the toe must be removed, but the operation was postponed in consequence of the health

of the patient being a good deal affected by the local disorder. On the 17th April the toe was removed. I was obliged to make the flap from the inner and under surface, as there were some sinuses on the upper part, and over the diseased bone. After dissecting back the flap, I opened the tarso-metatarsal articulation without difficulty; then, cutting outwards, I removed the toe and metatarsal bone together.

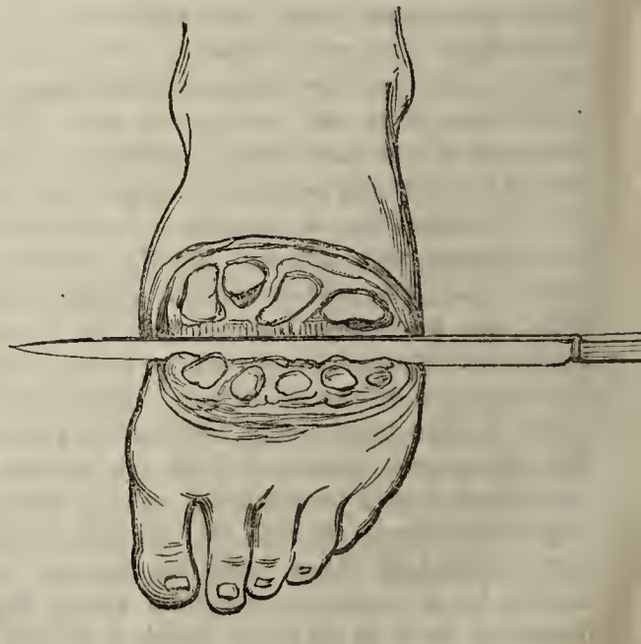
Immediately after the operation there was some pain and irritability, but both were subdued by the remedies employed, and she afterwards continued gradually to improve until she was discharged quite cured.

Amputation of the metatarsal bone of the fifth toe from the os cuboides.—The usual plan adopted in this operation is to first form the inner flap by passing the knife between the fourth and fifth toes, and, abducting the little toe, carry the knife backwards until it comes in contact with the cuboid bone; the edge of the knife is then to be directed outwards and slightly backwards, to correspond with the direction of the joint which it is to traverse, the toe being more and more abducted as the structures of the joint are divided, and, being carried outwards sufficiently to clear the tubercle of the fifth metatarsal bone, it is to be brought forward, being kept close to the bone, thus the outer flap is completed.

In consequence, however, of the great projection of the tubercle of the fifth metatarsal bone, I believe it to be a better mode of proceeding to form the outer flap first: by this means you more certainly secure a sufficient covering than when the soft parts are divided by drawing the knife forwards after the joint has been opened. In that case the operation will commence by making the outer flap, and this may be effected by commencing the incision upon the dorsum of the cuboid bone, immediately behind the joint it forms with the fifth metatarsal bone, and continuing this incision along the whole length to the base of the first phalanx of the little toe: the knife is then to be carried around the outer side of that bone just in front of the joint, and then backwards to the plantar surface of the cuboid bone, and terminating the incision immediately beneath where the dorsal incision commenced: this flap is to be completely dissected back, and the tarso-metatarsal joint laid open from without to within; the inner flap is then completed by drawing the knife forwards between the fourth and fifth metatarsal bones, after which the whole may be removed.

All the metatarsal bones may be removed from their tarsal articulations, but this operation can be but rarely required; and if any of the metatarsal bones can be saved, it should always be done, more especially that of the great toe, which is the chief source of support to the body, and performs a most important office in the act of progression. Accidents, however, sometimes render it necessary to perform such an amputation, and it may be effected in the following manner:—The foot being firmly held and supported on a low chair, the surgeon feels for the tuberosity of the metatarsal bone of the little toe, and from it draws an imaginary line at a right angle across the dorsum of the foot, which will terminate on the inner side half an inch behind the tarso-metatarsal joint of the great toe: he then firmly grasps the sole of the foot with his left hand, his thumb being on the tubercle of the fifth metatarsal bone, and his forefinger on the internal cuneiform bone, if operating on the right foot, and *vice versâ* if on the left; he is then to make a semicircular incision across the foot, the convexity of which is directed forwards and extending anterior to the tarso-metatarsal joints; this flap is to be dissected back, so as to expose the articulations; the knife is then to be passed into the dorsal aspect of the joint between the fifth metatarsal bone and the cuboid, and successively the fourth and third joints opened in the same way. The operator should then lay open the joint between the first metatarsal bone and the internal cuneiform, leaving the second metatarsal joint to the last, as it extends so much further back into the tarsus than any of the others: it is, however, easily disarticulated by cutting backwards on either side of the second metatarsal bone until the knife reaches the middle cuneiform bone: the dorsal aspect of this joint may now be laid open, and the metatarsus being forcibly bent downwards, the knife may be passed between the metatarsus and the sole of the foot, from which the plantar flap is to be formed. If there

Fig. 3.



be any difficulty in passing the knife through the joints to make the under flap, it will usually be overcome by cutting through the tendon of the peroneus longus before attempting to make the flap. (Vide Fig. 3.)

In opening the second tarso-metatarsal joint by carrying the knife backwards, as I have described, on either side of the second metatarsal bone, care must be taken that the knife is not carried too far backwards into the articulations of the middle cuneiform bone with the other two, which joints are in so direct a line with the incisions that this is likely to occur; but it may always be obviated by not allowing the longitudinal incisions to extend farther back than the imaginary line first drawn straight across the dorsum of the foot fram the tubercle of the fifth metatarsal bone to the inner side of the internal cuneiform, in the continuity of which line the second tarso-metatarsal articulation is placed,—in fact, exactly in the same plane as the joint between the fifth metatarsal bone and the cuboid.

Some surgeons recommend that the plantar flap should be made immediately after the dorsal one, transfixing the sole of the foot, and cutting out and then disarticulating the joints; there is, however, some difficulty in executing this plan, in consequence of the arched form of the plantar region.

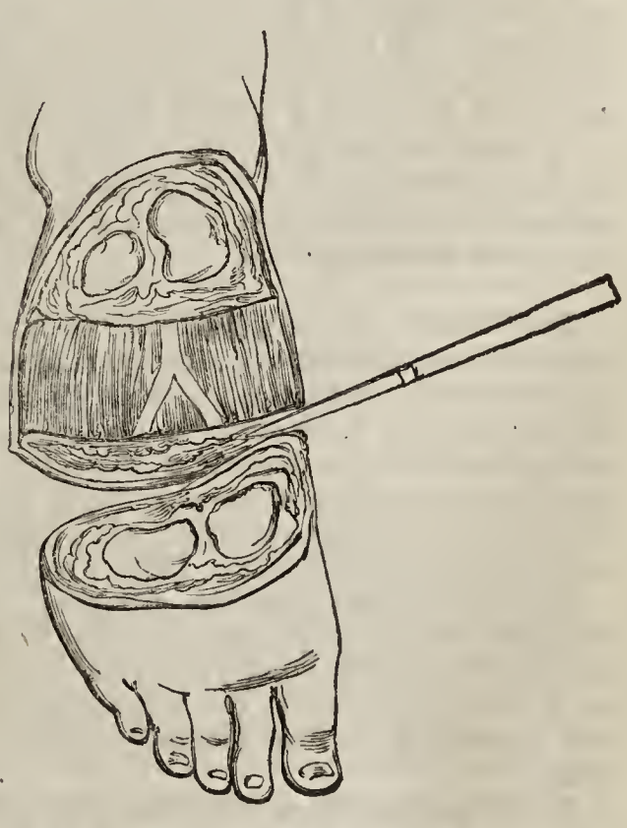
The tourniquet had always better be employed in these operations.

If the injury to the foot requiring partial amputation be sufficiently anterior to the tarso-metatarsal joints to admit of it, it is better to saw through the metatarsal bones than to divide at the articulations, for the obvious reason that a broader base of support is left, and the use of the flexor and extensor muscles of the ankle-joint preserved: it should, therefore, always be the method employed when practicable.

Amputation of the foot through the tarsal bones, dividing the joints between the calcis and astragalus aud the cuboidal articulation.—M. Chopart was the first surgeon who performed this operation; I have myself employed it upon two or three occasions. Following the directions he has laid down, I found it easy to execute, but met with considerable subsequent difficulty in getting the stump to heal,—prlncipally, I believe, in consequence of the hardness of the sole of the foot; still, however, it is an operation which, under certain injuries of the foot, must be had recourse to.

The most convenient mode of performing the operation is to place the patient upon a high chair, the operator sitting on a lower seat in front. Then grasping the sole of the foot with his left hand, he feels for the tubercle of the os naviculare on its inner side, and there places his fore finger or thumb according to the foot he is operating on, and immediately at the opposite point on the outer side he will feel the articulation between the os cuboides and the astragalus. An incision of a semilunar form is then to be made across the dorsum of the foot, commencing at one of these points, and continuing it to the other, making sufficient pressure on the knife to secure the complete division of the soft parts. This flap being reflected, he may then proceed to open the points, which will be much facilitated by pressing the metatarsus downwards, and having separated the bones from each other the knife may be passed up on their under surface between them and the sole of the foot which is to be cut away from the bones by drawing the knife forwards as far as the extremities of the metatarsal bones. This will be found just to leave sufficient flap to cover the face of the stump. (Vide Fig. 4.) In the last case in which I performed this operation, I made the under flap by transfixing the sole of the foot from one side to the other before I opened the joints, and I found this to be easier of execution than that I have just described, as proposed by M. Chopart. The plantar and anterior tibial arteries must be secured in this operation, and the flaps retained by the interrupted suture, as in hare-lip.

Fig. 4.



Amputation of the foot at the ankle-joint.—The tourniquet being applied, and the foot securely held by an assistant, with the heel resting on the edge of a table of convenient height, the operation is commenced by an incision being made beginning immediately below the centre of one malleolus, and passing in a semilunar direction across the dor-

sum of the foot to a corresponding point below the malleolus on the opposite side: the curve of this incision is towards the toes. A second incision is now made to unite the extremities of the first by being carried across the sole of the foot from one malleolus to the other. The last incision divides all the soft parts down to the bones of the tarsus: the plantar flap is to be dissected back as far as the tuberosity of the os calcis, taking care at the same time not to wound the posterior tibial artery. The anterior or dorsal flap is also to be turned back, and the anterior aspect of the ankle-joint exposed: it must be widely opened, the foot being depressed as much as possible after the articulation is cut through: the anterior part of the tendo-achillis is well exposed, and it, as well as any other structures still keeping the foot attached to the leg, must be carefully divided: the malleoli are then sawed off, and the amputation is complete. After the foot is removed, the plantar arteries are to be secured, and then being brought together are maintained in apposition by means of the interrupted sutures. The great advantage of this operation is found in the circumstance that in the formation of the face of the stump that structure is employed which is naturally intended to support the weight of the body, being furnished with a hard cuticle, well capable of bearing pressure; and in addition to this point, the form of the stump must be looked upon as very favourable, as it is easy to adapt an artificial foot to it, so that but little deformity is produced. It is true that there is some difficulty in healing the stump, in consequence of the great thickness of the cuticle in this region, and this forms to a certain extent a draw-back to the operation.

The following arbitrary division of the foot may be found useful in enabling the student to trace the different articulations mentioned in the preceding descriptions of the various operations, more particularly as these articulations are sometimes, especially when the foot is in a morbid condition, discovered with considerable difficulty. (Vide Fig. 5.)

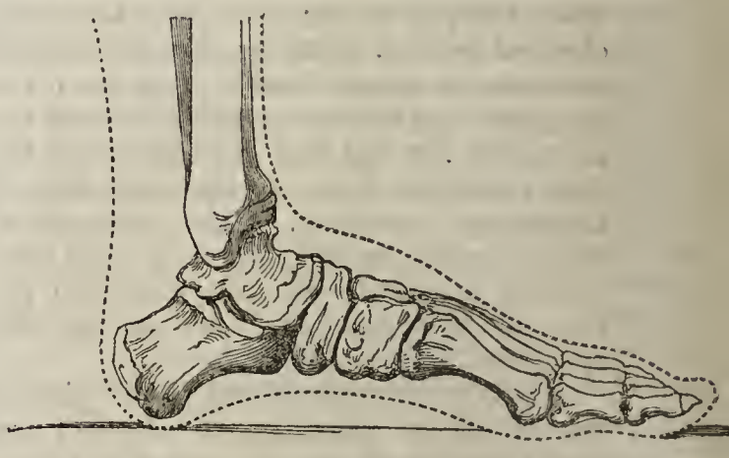
1. A line drawn from the extremity of the great toe to the posterior extremity of the os calcis is divided nearly into equal parts by a point which marks the articulation of the metatarsal with the internal cuneiform bone.

2. A line drawn from the tarso-metatarsal articulation to the extreme point of the great toe—that is to say, the anterior half of the line described above—is divided into equal parts by the point at which the first phalanx of the great toe is articulated with the metatarsal bone.

3. A line drawn from the tarso-metatarsal articulation to the centre of the inferior portion of the internal malleolus will be divided into equal parts by the tubercle of the os naviculare, immediately behind which is the junction of that bone with the astragalus.

4. A line drawn from the point just posterior to the tubercle of the navicular bone, and carried across through the back of the loop, will mark the division between the os naviculare and astragalus, and the os cuboides and os calcis.

Fig. 5.



ENORMOUS ENCEPHALOID TUMOR IN A CHILD ONLY FIVE YEARS OF AGE. BY DR. GOULD.

The subject of this disease received a blow on the abdomen about five months before death, and was first seen about three months after. The abdomen was enormously swollen, but the child was bright and active. There were no peculiar symptoms, but the child gradually sank and died. On dissection, a mass of disease was found, about as large as the child's head, consisting of a very soft white encephaloid substance, with some effused blood, and a considerable quantity of a glairy fluid, that soon formed a soft tremulous coagulum after removal from the body, as does the serum in some forms of dropsy. The deposit was in the cellular tissue behind the peritoneum, at the upper part of the abdomen, and tending down the left side, and inferiorly across to the cæcum. The colon was pretty closely connected with the mass, and the pancreas was raised by it and brought forward conspicuously into the front part of the abdomen. The left kidney was extensively involved in the disease, and its vein contained a large mass of soft encephaloid substance. The other organs of the abdomen were healthy, as was also the peritoneum. In each of the lungs were several encephaloid masses, from four to eight lines in diameter, and in the left pleural cavity some serous effusion.—*American Journal of the Medical Sciences.*

Original Communications.

ON THE DANGER OF USING GUTTA PERCHA CATHETERS.

By Cæsar Hawkins, Esq.
Surgeon to St. George's Hospital.

Very soon after they were introduced, I was obliged to give up the use of catheters and bougies made of gutta percha, on account of the great irritation they generally excited in the urethra,—an irritation which is also found in many cases to prevent the employment of splints made of this substance in the treatment of fractures and diseased joints, for which it would otherwise be well adapted. The case of a man who this day leaves the hospital, induces me to point out the actual danger to life which may be occasioned by catheters of gutta percha, and is the necessary result of the mode in which they are constructed; not of accidents or carelessness, which will occasionally lead to the breaking of the ordinary gum catheter also. I am the more inclined to request the insertion of this notice in the Gazette, from my having been informed that a man is at present in another hospital in London, in consequence of the same circumstance, from whose bladder the fragment has not yet been extracted.

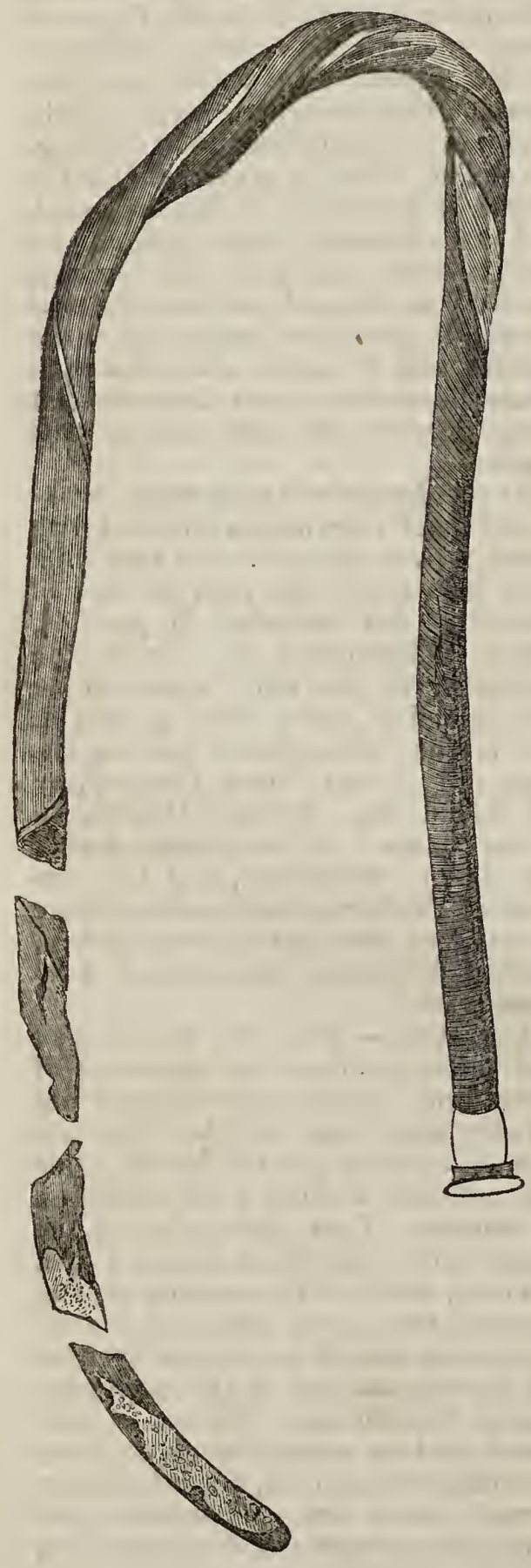
The catheter is made, it would appear, of a slip of gutta percha nearly an inch wide, and of the necessary length for making the catheter, which is twisted round a stilette, so as to make the edges of the slip join together, in which position a moderate degree of heat makes them cohere to constitute a tube, when the stilette is withdrawn. Of course, if this slip is screwed up in one direction, the edges are pressed together, but when twisted in the contrary direction, unless made to cohere very firmly, the catheter is readily untwisted into the original long narrow slip of the material employed, and probably the warmth of the body facilitates this separation of the edges of the slip. A second catheter, which my patient used on only one occasion, was thus opened at one point of junction, and was easily unrolled for its whole length; others are not so easily broken up, but all must be dangerous.

James Turner, æt. 58, was admitted into the hospital, July 18th, 1849. He had been under my care about eighteen months ago, and has been constantly in the habit of passing a catheter since that time in order to prevent the mischief of partial retention of urine from enlargement of the prostate gland. In using the instrument to-day (a gutta percha catheter given him by a friend), it broke in the urethra, and a fragment about four inches long remained behind, which, however, he says, produces no inconvenience except a pricking sensation in the urethra in walking. On examination it was evident that the stream of water was as free as usual, and on external examination no foreign body could be felt in the urethra; so that, if his account was correct, it must have broken off in the bladder, and by means of a catheter on a subsequent day it was distinctly felt lying towards the left side of this organ.

As the disease of the prostate occasioned much ropy mucus streaked with blood, it was determined to keep him quiet for a short time, with the view of lessening this irritation, if possible, before endeavouring to extract the fragment, as the only sensation he complained of was a burning pain in the urethra immediately behind the scrotum. It was found, however, by my friend Mr. Prescott Hewett, in whose charge I left the patient during my absence from town, that the presence of the foreign body excited more irritation of the bladder than before, and the following is his account of its removal:—

Aug. 16th.—After the patient had been fairly got under the influence of chloroform, which, however, was not till after some time, Mr. Hewett passed a small lithotrite into the bladder; this was not done without some difficulty, on account of an obstruction in the membranous part of the urethra; this, however, after a little pressure kept up for some time, gave way, and the foreign body was at once detected with the instrument, still in the same position on the left side. It was at once seized, and an attempt made to bring it through the urethra, but it broke apparently about the membranous portion of the urethra; and on removing

the lithotrite about half an inch of the catheter was found between its teeth; this was coated with calcareous matter. A long pair of straight urethra forceps was then passed down the urethra, and at its membranous portion the foreign body was, after a short time, again seized. In attempting to bring it out, it again broke off, but another half inch of the foreign body was brought away. The urethra forceps were again introduced, and the remaining portion removed without further trouble. On putting the three bits together, they evidently made up the whole of the catheter which had been broken off. A catheter was, however, passed into the bladder, but nothing further was detected.



He suffered some pain after the operation, but the frequency in making water lessened in a day or two, and he was again able to retain the water, which had begun to pass involuntarily in consequence of the presence of the foreign body. The chronic inflammation of the bladder occasioned by the condition of the prostate, obliged me, however, to keep him in the hospital till the present time, his health being now much restored, but the necessity for almost daily use of the catheter remaining to prevent a few ounces of water being always retained.

I requested our curator, Mr. Gray, to give me a sketch of the catheter, which will shew the manner in which the gutta percha is twisted and joined to form the instrument, and explain the facility with which, once opened at any point, it can be completely unravelled and broken by twisting it in the wrong direction.

CLINICAL OBSERVATIONS ON SURGERY.

By R. H. Meade, F.R.C.S.
Bradford, Yorkshire.

[Continued from p. 589.]

Mr. Hey has recorded a case which possesses many points of resemblance to the one which I have related; I shall therefore make a few extracts from it:—He says,* "A man, aged 50, subject to a small scrotal hernia, which always retired upon lying down, had the misfortune to strike the scrotum and hypogastrium against a post as he was walking in the streets in the evening. A vomiting immediately supervened, which soon went off, but returned in the morning, and continued all day. I saw him in the evening: there was no appearance of a bruise upon the abdomen or scrotum. The former was somewhat tense, and

* Practical Observations on Surgery, third edition, p. 205.

seemed to be very painful when pressed. There was a very small tumor in the right groin, not exceeding the bulk of a cherry. It was free from tension, though painful when touched. It did not retire upon pressure. He seemed to be in great pain. His pulse was about a hundred, but neither full nor tense. His tongue whitish. About sixteen ounces of blood were taken from his arm. Some cathartic salt was given, and a purging clyster injected. The pain continued severe all the next night. The vomiting also remained. The abdomen in the morning was more swelled. During the day the bowels were opened twice, but without relief to either the pain or the vomiting, and he died about three o'clock the next morning. Mr. Hey examined the body. He found a small hernial sac just below the abdominal ring, in which a small portion of the ileum, not more than half the breath of the intestine, was contained, and adhered so strongly to it that a hole was made in the intestine by drawing it gently out of the sac. The intestines were inflamed throughout: they adhered in many places to the peritoneum, and universally to each other. They were covered by a thick inflammatory exudation, which in some parts appeared to be one-eighth of an inch in thickness. A large quantity of purulent matter was diffused in the abdomen.

The chief peculiarity in this case was the strangulation of one side of the intestine alone, and consequently incomplete obstruction of the bowels, the patient passing solid fæces. Had the sac been opened in this instance the man's life probably would have been saved, as Mr. Hey himself admits.

In the case I have myself related the operation was chiefly useful by evacuating the purulent matter contained in the sac and abdominal cavity; the pressure being thus removed from the displaced portion of intestine, and a quantity of highly irritating fluid got rid of from the peritoneal cavity. The late Dr. Abercrombie says,* "There is ground to believe that in some cases it (peritonitis) admits of a cure at an advanced period by the evacuation of the matter. In such cases we have reason to conclude that the inflammation had been resolved by the effusion without leaving any injury to the organization of the parts. Several cases of this kind have been reported to me, in which, after symptoms of peritonitis, chiefly in the puerperal state, purulent matter either found a vent for itself through the parietes of the abdomen, or was evacuated by tapping, and the patients recovered." The form of peritonitis here spoken of by Dr. Abercrombie is what he calls "erysipelatous," and accompanies (in fact constitutes) the majority of cases of malignant puerperal fever. This is highly contagious, and there is a painfully interesting connexion between some of these cases and those of strangulated hernia, showing that the form of peritoneal inflammation in both is very similar. I allude to the fact well known to many surgeons, that if a medical man attend a midwifery case soon after examining the body of a patient who has died with strangulated hernia, he is liable to infect the woman with malignant puerperal fever.

In concluding my remarks on the case of D. Stephenson, I wish to say a few words on my reason for giving opium in large and frequent doses after the operation. The portion of exposed intestine was in such an altered state that I thought it would most probably give way if purgatives were administered, or any other means resorted to which could excite the peristaltic action of the bowels; whereas if they were kept perfectly quiet for the first day or two, they might recover from the weakened state to which they had been reduced by the inflammation; and if any portion was in a state of mortification, adhesions might form between the adjacent parts, and the dangers of effusion into the abdominal cavity from rupture of the intestines be lessened. I may here allude to the power which opium sometimes possesses of causing the reduction of a strangulated hernia. Many cases have been recorded in the different journals during the last few years, in which recovery has followed the administration of this remedy; but though this practice has been more prominently brought forward lately, its efficacy in some cases was acknowledged by many of the older surgeons. Richter particularly insisted upon the utility of

* Diseases of the Stomach, &c., third edition, p. 188.

opium in certain cases of hernia, and Mr. Hey says,* "I have seen several cases in which opiates given freely (in athletic persons after bleeding) have procured a reduction of a strangulated hernia. I have also received accounts of success by the same means from some of my medical correspondents." He adds, "one circumstance relative to the use of this medicine deserves to be noted—viz. that it will often remove for a time the pain and vomiting usually attendant upon a strangulation, even when it proves ultimately inefficacious. I have already related one instance in which the vomiting and pain were suspended during forty-eight hours, so that the patient lay easy, and retained upon his stomach everything that he took, though the strangulation continued." He also says, "opiates should be given in large doses when it is intended to try their effects for procuring reduction." The great benefit derived from opium seems to arise from its power of tranquillizing the whole system, and more especially the alimentary canal; but it is of great importance that it should not be given in the early stages of the affection, while there is acute inflammation of the intestines and hernial sac. It should only be resorted to after bleeding and other remedies for reducing inflammation have been carried to their full extent; and I believe that its efficacy will be found the greatest in those instances in which the powers of life have been reduced to a very low ebb. In most of the cases lately recorded in which a strangulated hernia was reduced under the influence of opium (for instance in those published by Dr. Butler Lane),† it was administered as a last resource after all other plans of reduction had failed, and where the patient refused to submit to an operation.

CASE II.—*Encephaloid Cancer of the Testis—Extirpation of the disease in the early stage, followed by recovery—Persistence of health for three years, with prospect of its continuance.*

I have been induced to record the following case, in consequence of its being so exceedingly rare for patients to continue well for any length of time after castration has been performed for soft cancer or fungoid disease of the testis. This operation has been so unsuccessful, that the propriety of its performance at any stage of the complaint has been doubted by some surgeons; but I think it will be found in many cases that this want of success has been partly owing to delay in the removal of the part until the disease has made considerable advancement, when the constitution has become affected, and secondary deposits have formed in other parts, which sometimes seem to be called into activity more rapidly after the primary disease has been removed. Mr. B. Curling says—"There are many reasons for concluding that the origin of carcinoma is local; that the disease is produced by some local irritating cause, and is confined tor a time to the part in which it is developed; but being once formed, it is very prone to spread to other parts, owing probably to the passage of the cells or cancerous germs into the blood." Mr. Curling, therefore, thinks that an attempt to remove this fatal malady by an operation deserves a trial, though he admits that he scarcely knows a case himself where castration has been performed in which the patient has survived for any lengthened period. Mr. Travers states that he has never known an instance of the non-recurrence of the disease after castration;* and Sir A. Cooper and Sir B. Brodie speak almost as discouragingly of the result of operations in this fatal disease. Under these circumstances, the following case will not be devoid of interest, as it was a well-marked instance of the affection, though the testis was removed before it had acquired any considerable size, and the patient has survived the operation for just three years, and is now in his usual health.

CASE. A gentleman, about 40 years of age, consulted me, in April 1846, about an enlargement of the right testicle, which had been gradually increasing since he first noticed it, two or three months before. The testis was about the size of a hen's egg, and felt smooth, hard, and heavy. The spermatic cord was rather thick and full, but otherwise natural. There was no enlargement of the glands in the groin. The tunica

* Practical Observations, p. 120.
† Provincial Journal, May 21, 1847.

* Med. Chir. Trans. vol. xvii. p. 335.

vaginalis contained a little fluid. He had scarcely suffered any pain or uneasiness, and the part was not unnaturally tender on pressure. He was a married man with a family, and knew no cause whatever for the occurrence of the disease, unless it had arisen from a slight blow which he remembered receiving some months previously while riding on horseback: his general health was much as usual, but he was not at all a strong man, and he had a sallow, unhealthy look.

The symptoms were either those of chronic orchitis, or encephaloid cancer in the early stage; and I learned that a brother of my patient had died some years before from malignant disease of the testicle, which had been removed (though at too late a period) by the late Mr. Hey, of Leeds. This circumstance rendering the case more suspicious, I determined that if the disease did not readily yield to the action of mercury, and other remedies for simple chronic inflammation, to urge the necessity for an operation before the complaint made much further progress. I therefore directed him to keep perfectly quiet in the house, and as much in a recumbent position as possible (though not altogether in bed); to keep the scrotum suspended by a bag truss; to cover the part with strong mercurial ointment, and to take five grains of blue pill night and morning. The mercury soon slightly affected his mouth, and I kept him gently under its influence for a month; at the expiration of that period, there being no alteration in the symptoms, I wished him to consult my friend Mr. Teale, of Leeds. He agreed with me that the nature of the case was doubtful, but recommended that the mercurial treatment should be continued for some time longer, and pushed rather further: our patient was therefore confined to bed, and took mercury rather more freely, until his mouth became very sore. The disease now appeared to be giving way under the treatment, for the testicle felt both smaller and softer; but as soon as the mercury was discontinued (which it was obliged to be, owing to its depressing effects on the general health), the part returned to the state in which it was before, which showed that the diminution in size was only apparent, and owing to the effect which the perfect rest and the depressing influence of the mercury had in lessening the quantity of blood circulating in the part. After a short interval the exhibition of the mercury was resumed, and our patient was kept more or less under its influence for two months longer: compression of the organ by strips of adhesive plaister was also tried, but without any beneficial effect. On the contrary, the pressure seemed rather to irritate the organ, as the quantity of fluid in the tunica vaginalis was always increased after its application, and the testicle felt more painful. At the beginning of September the size of the testis was much the same as it had been five months before, but its surface felt rather irregular. The general health having suffered considerably by the long confinement, and the nature of the case being still obscure, we recommended our patient to go to the sea-side for a short time, and to discontinue all treatment except that of keeping the testis well supported; but before he left home I measured the testis accurately with a piece of tape, which I gave him, and enjoined him to repeat the measuring every week or two, and if he found that the part was increasing in size, to return home immediately. He went to Scarborough, where he remained until the middle of October, when he returned home in haste, as he found that the disease was beginning to extend. I found his general health rather improved, but the testis had increased an inch in circumference during the time he had been away. The gland also felt irregular and tuberculated, its surface being studded with projections, some of which felt soft and elastic. The cord and the glands in the groin remained free from disease. The malignant nature of the affection being more apparent, I at once proposed the removal of the organ, and Mr. Teale now fully agreeing in the propriety of the operation, the patient at once consented, and I amputated the testicle on Oct. 22d, 1846.

On examination of the diseased gland, it presented well-marked characters of encephaloid disease. The surface of the testicle was studded with large pinkish white projecting lumps, between which the tunica albuginea had a dark bluish colour. On cutting into it, it was found filled with brain-

like matter, partly flocculent, and of unequal consistence, some parts being quite soft: a small cavity filled with grumous bloody fluid existed towards the centre of the organ. On examination of the diseased part with the microscope, no traces of the tubuli seminiferi could be discovered; a soft areolar tissue occupied their place, containing a number of irregular shaped nucleated cells. On examining a drop of fluid squeezed out of the divided end of the vas deferens, it was also found to be filled with nucleated cells, which were elongated and fusiform in shape.

The wound healed favourably, and the general health gradually improved, and up to the present time (just three years from the performance of the operation) there have been no symptoms of return of the disease either in the cicatrix or in any other part.

Bradford, Yorkshire, Sept. 1849.

BRIEF NOTES ON THE

EFFECTS OF THERAPEUTIC AGENTS IN CHOLERA.

(THE LEAD TREATMENT.)

By Charles Beckett, M.R.C.S.L., L.S.A.

Senior Surgeon to the Hull and Sculcoates Dispensary, and one of the Surgeons for Cholera.

[Continued from p. 621.]

2. *Chloric Æther.*—This is an useful adjunct to other remedies, being perhaps the best stimulant we possess in these cases. It does not disagree with the stomach; but, on the contrary, appears to allay its irritability, whilst its tonic effect upon the nervous and circulating system is highly valuable. It seems to be, as it were, intermediate between the nitric and sulphuric æther, being more agreeable than either. I gave it usually in ten-minim doses (or even less) with the compound tincture of cardamoms; and I generally accompanied the acetate of lead pill (already noticed), with a dose of a mixture thus composed; in this way attempting to ward off the collapse with the one, and checking the profuse discharges with the other.

3. *Salines, effervescent or tranquil.*—In alluding to the employment of these in cholera, we are reminded of the vast value of modern researches in affording some insight at least into the chemistry of life, which is evidently so much implicated and deranged in the graver forms of cholera.

Some, whom we may designate vitalists, seem to regard their remedies as simply exerting a specific influence upon vital organs and structures, losing sight of the fact that what we term specific power is for the most part but the ultimate result of a variety of primary laws of the organism which lie deeper than such therapeutic phenomena.

Others, again—the mechanists—impute to a peculiar hepatic and portal congestion the whole train of morbid sequences which occur; and hence by emetics and calomel more especially, would remove the obstruction which they conceive to be the cause of so much mischief.

Or, again, a superficial and too exclusively *chemical* view of the disease may be taken,—as, for instance, that which would rely upon saline draughts or injections into the veins, or upon the inhalation of oxygen, &c.

Now it certainly appears to me that in the treatment of malignant cholera we must carefully regard the whole of these; endeavouring by all available means to preserve and restore the vital force—obviating the mechanical evils which the lost balance of the circulation induces, and withal minutely regarding the fearful and often most destructive perversion or abolition which exists in the chemistry of life. It is principally on this latter ground that salines will be found to be so valuable; and as their action may not be obvious to all, even who employ them, I may perhaps be permitted to allude to it here.

One reason why their effect is so valuable in extreme adynamic conditions, is that as their action depends so little upon the vital power, and in fact chiefly upon chemical laws, their power is felt when the system is scarcely capable of being influenced by any other therapeutic agent.

In whatever ratio they are absorbed, of course in the same proportion they tend to increase the density of the medium in which the globules float, and thus by a well-known endosmotic law to diminish their size, at the same time

brightening their colour as an optical phenomenon.

Is it not possible that the cerebral and pulmonary congestion which often arises in these cases where the serum is almost all so rapidly drained off and replaced by water or other diluents, may in some measure depend on the tumid condition of the globules thus circumstanced?

At all events, all salines have a direct tendency to impoverish the globules, and add their contents for the time to the liquor sanguinis; and this must favour an embarrassed circulation.

Further, they have a direct tendency to induce renal depuration. They furnish in their bases that which by union with phosphoric, lactic, and uric acids in the circulation, shall tend to that depuration the suppression of which is so rapidly destructive. They hold out an inducement, as it were, for the speedier accomplishment of vital metamorphoses, and point to an exit by the kidney.

The profession owes much to Dr. Golding Bird for the lucid manner in which this subject has been recently illustrated by his observations reported in the London Medical Gazette. Never have I lost sight of his valuable inductions, nor have I found cholera to constitute any exception to their importance. The careful administration of salines, as of minute effervescing doses of carbonate of soda with tartaric acid, rendered aromatic by Tinct. Card. Comp. and Tinct. Zingib. I have found to be almost invaluable, either relied upon exclusively in simple cases, with the addition of two or three minims of tincture of opium, or accompanied by the lead pill before mentioned.

Upon this plan secretion has often been restored, nausea and general pyrexia have disappeared, and rapid convalescence has followed. Of course I am now alluding to the severer class of "cases approaching to cholera," as they are termed in the official returns.

In fine, I find the full action of the kidney to be quite as critical an event as that of the liver, having scarcely or never seen a fatal case where this function was maintained or restored.

Dr. Copland recommends the use of the bicarbonate of soda with chlorate of potash and chloric æther. I have tried this combination in choleraic secondary fever, with the most pleasing results.

There is one remedy, however, which, should I unhappily have the opportunity of testing, I should almost prefer to this,—I allude to the phosphate of soda.

It appears to me that the serous discharges of cholera, the greatest saline loss, both in quantity and importance, is that of the phosphate of soda.

When we remember that Liebig has shown that its great use in the blood appears to be that of rendering carbonic acid latent, as it were, from its exceeding solubility in a solution of that salt, are we not led to a conception of the reason why the sudden and large loss of this normal constituent is so soon followed by manifest and urgent asphyxia?

So far as I have observed, the asphyxia of cholera is always preceded by serous diarrhœa (often neglected), whilst in certain subjects serous purging so inevitably seems to lead to asphyxia as to stand in the relation of cause and effect.

At all events, we hence learn the value of the soda salts in general; and I should be inclined in future to try a combination of the phosphate and carbonate of soda; the latter free, for the formation of organic compounds in the system. Should these views be found to be just, they would indicate a line of treatment in cases as yet free from actual collapse, which I have practically found to be of great value—viz. the use of the acetate of lead pills as an efficient means of controlling serous discharge by a direct effect upon the albumen of the liquor sanguinis itself, along with weak sodaic effervescents, which tend to keep up the density of the liquor sanguinis, to contract the dimensions of the ill-circulated globules, to afford a nucleus for the formation both of bile and of urine, thus ridding the system of bilates, lactates, and urates of soda,—to furnish to the blood the means of restoring its lost phosphate of soda, and thus of concealing its carbonic acid, and warding off the asphyxia, which is in fact but a mode of death.

Of course, *à fortiori*, choleraic secondary fever is a more manageable and intelligible disease than cholera itself; yet all who have seen much of it will concede that it by no means yields

readily to routine treatment, but seems often to require careful attention to that part of the system which is so especially in fault in the relation of its constituents to each other, as well as to the general system: I allude to the blood itself.

[To be continued.]

ON INSENSIBILITY

AS AN ATTENDANT OF INDIGESTION.

By Joseph Hinton, M.R.C.S.L.
Hayes, Middlesex.

Dyspepsia, among its numerous attendant symptoms, frequently classes head affections: this fact even the most casual observer cannot fail to notice. The flushing of the face and occasional headache, in healthy persons, from too great indulgence, are common enough. To the dyspeptic this symptom is among his most frequent and often most disagreeable companions; but in some cases it reaches a far higher point, often alarming the friends of the patient, and occasionally even the doctor himself. Several of these cases having rapidly fallen under my notice, my attention has been directed towards the subject, and among the most important cases which recur to my recollection are the following:—

Case I.—Mrs. E., æt. 33, the wife of an independent gentleman, had been under my care for some weeks with dyspepsia of severe type, attended with anæmia and disordered uterine functions. On the 2d of November, 1848, I had seen her, and thought her rather better, but was summoned to her about 10 in the evening. She was then partially insensible, with slight convulsive twitchings of the hands, and sometimes of the whole body, the latter being with difficulty restrained. She appeared to suffer pain in the epigastrium, which she was beating violently with her hands. Contrary to orders she had eaten a small piece of steak for supper, and soon after was seized with pain: her face was rather flushed, and her pulse somewhat quickened. Unaware of my presence, she made several ineffectual attempts to induce vomiting, by tickling her throat, &c. Some sulphate of zinc soon relieved her, and sensibility gradually returned while the emetic was acting. A sinapism to the epigastric region, and immersion of the feet in hot water, followed by some refreshing sleep, recruited her, and in a day or two she was as well as usual. This patient has had one, if not two, similar attacks; both, if my recollection serves me right, occurring after supper.

Case II.—Jan. 12, 1849. I was sent for in the evening to a neighbouring farm-house, to see one of the carters. I found him reclining, supported by one of his fellow men, writhing in agony, partially insensible, with his hand rubbing the region of his stomach. He could not answer any questions, and as he had just returned from town, it was very doubtful what were the contents of his stomach. The boy who accompanied him to town did not think he had eaten any thing since breakfast, when he had some bacon. (This, I believe, was correct.) Some sulphate of zinc acted speedily, bringing off pieces of unchewed bacon more than half an inch square. The same treatment was pursued, and in a day or two he was at work.

Case III.—In March, 1849, Miss H., a young lady, governess in a gentleman's family, consulted me. She had been suffering for some time from indigestion, which had now become so aggravated that I recommended farinaceous diet. In a few days she was so much relieved, that she was tempted to eat a small portion of meat, not the length of one's finger; soon after which she had increased pain in the epigastric region, with tenderness on pressure. This continued during the day, ceasing at intervals. On the following day this was still very severe; her tongue was loaded, and she herself feverish. I recommended the application of six leeches to the epigastrium. In the evening she was very irritable, had convulsive twitchings of the hands, and was frequently delirious; the pulse quick, but feeble. The leeches had relieved the pain, but the skin around exhibited a slight erythematous blush. Effervescing medicine was ordered, and the excitement was so great that I gave her two half-drachm doses of Tinct. Opii at bed-time. Next morning she was very low; she had passed a restless night, being often insensible. The tongue was covered with a dark brown, but moist coat.

About the middle of the day (forty-eight hours after eating), she vomited naturally; the meat returned almost unaltered, and she was very soon free from pain and delirium. From this time she speedily rallied; and though kept on farinaceous diet for some time, she gained strength, and ultimately passed into much better health than she had experienced for years. On the second or third day I allowed this patient the yolk of a lightly boiled egg; it gave her pain; she had some tendency to a relapse; but the offending substance was speedily expelled by an emetic.

Case IV.—Mr. H. M., æt. 20, the son of a farmer, and a young man of very intemperate habits, was said to have had a fit. Living close by, I saw him almost immediately; he had tumbled down in the yard, and from that place been conveyed to his room. He had then every appearance of delirium tremens; the trembling hand and tongue, talking in a rambling manner about business, &c. I learnt that he had just breakfasted when seized. I gave him an emetic; as soon it acted all trace of delirium disappeared. In the evening I was again sent for; he had been taking some toast with his tea, and while eating had had another attack, the delirium assuming the same character. After the action of an emetic it went off. The bowels had been rather costive, and some colocynth and calomel pills were given him. I ventured to tell his parents that it was not improbable he might have an attack of delirium tremens. Two days after, it set in with tremendous violence; the stomach so irritable that it rejected every thing fluid. He had no sleep until he had taken nearly fifty grains of opium in three and four grain doses every hour. He recovered perfectly, the tone of the stomach returning under the use of tonics.

Case V.—While attending the last case I was sent for to Mrs. C., the wife of a gentleman in good circumstances. The messenger casually mentioned something about dinner; and I, acting on the idea, took with me some sulphate of zinc. On my arrival I found a stout lady lying on the floor, the children in tears, a neighbouring practitioner employed in examining the mouth and gums of the patient, who, had it not been for slight convulsive twitches of the fingers, and some spasmodic movement of the mouth, might have been declared inanimate. Seeing another practitioner in advance of me, I sat down, musing how this would end. I was soon roused from my reverie by one of the daughters pointedly asking me if I thought it was *only* a fainting fit. In this case the fears of the friends were increased by the knowledge of her having suffered severely with face-ache; and in endeavours to relieve this she had been rubbing her gums with laudanum, and they could not help thinking she had swallowed some. In a few words I learnt the history of dinner; of her suddenly dropping from her seat while reading the paper; that for some days she had complained of pain at the pit of the stomach, brought on by insufficient mastication of her food. Finding she was laid on the floor, with all her things on as tight as ladies' dresses generally are, I recommended that these should be loosened. The act of lifting caused imperfect attempts at vomiting, which I aided by the emetic. In a short time she vomited freely, was perfectly sensible, and two days after drove up to London in her carriage.

Cases like the preceding, happening suddenly, are apt to excite alarm; and it is well if the medical attendant, guessing the nature of the case, can dispel it. The diagnosis is generally easy. The tendency to dyspepsia should be sought for, as it may be present, although not attended to previously. The symptoms arising shortly after a meal point in some degree to the cause. It is unnecessary that this should be large; in several cases a very small portion was sufficient. The symptoms do not always come on immediately; and it is rather extraordinary that the cause of irritation may be retained for many hours, if the nature of the case escape observation, as in Case III. In one or two examples the delirium has been transient; nature unaided quickly throwing off the cause; and in Case I. the patient, although partially insensible, endeavoured to rid herself of her distressing load. A case of some difficulty in diagnosis occurred to me a few weeks ago: it was in a servant whom I had attended previously, when suffering from indigestion. When first seen she

was insensible; and being the only servant, it was impossible to learn whether she had dined, although it occurred just after the usual dinner hour. Some degree of vomiting had already taken place. An emetic exhibited returned, the stomach appearing empty. Previous to its exhibition, and for some time after, the convulsive actions were exceedingly violent, and almost of epileptic form. On recovering, it was discovered that she had not eaten any thing during the day, and I now suspect that the convulsions had their origin in disordered functions of the uterine system.

Case IV. is peculiar from the delirium showing a tendency to a disease from which, as yet, the patient had not suffered. Delirium tremens is generally found connected with a disordered state of the digestive organs; and even in cases which do not originate in intemperate habits this may be more or less noticed. The drunkard's *meat* is too frequently *drink;* on this he lives, solids rarely forming part of his diet scale. This case would seem to show that irritation in the stomach may cause a state analogous to delirium tremens, and not be distinguished from it. May not some cases of this disease have their origin in disordered stomach, the affection of the nervous system being secondary?

In the first and third cases the insensibility partook more of an hysterical character, and in both the functions of the stomach were badly performed.

There may not be any novelty in these cases, for as I have met with more than a dozen, I must suppose that they have fallen to the lot of others. My predecessor, however, during a longer period, did not meet with any similar cases, and I have not had any for some time. Whence the cessation? Dyspepsia appears as rife at one season as another. The class of those affected offers no explanation; I have met with it alike in the houses of the wealthy as in the hovels of the pauper. For the most part it occurs in the evening, after supper, and frequently after fatigue. The latter may have something to do with it, but certainly is not a necessary concomitant. I will not pretend to account for their occurrence, several together at long intervals, though it were easy to fly to that resource, that "forlorn hope," *atmospheric influence*, which, of late, has had to bear the brunt of so many disorders.

Nature herself dictates the treatment for the time; the digestive organs require attention after. The remedies which I have found most useful are gentle aperients coupled with tonics, alkalies or acids in bitter infusion, small doses of mercury combined with a sedative, as in Pil. Conii c. Hydrarg. of the Guy's Pharm., and counter-irritation by means of embrocations and sinapisms.

PRACTICAL OBSERVATIONS ON THE TREATMENT OF INSANITY.

By William Smith,

Formerly Resident Surgeon in the Lincoln Lunatic Asylum, and subsequently in the General Hospital at Lincoln.

In several of my former communications to the medical journals, I have ventured to express an opinion that very many cases of insanity are cured without the aid of physic; that is, merely by isolation from society, due attention to regularity as regards regimen, diet, air, exercise, employment, &c. However heterodox such an opinion may at first sight appear to those who have not witnessed the management of a well-regulated lunatic hospital, yet I shall endeavour to prove, in the present paper, that such statements are not only based upon the results of my own personal experience, but that they have also the decided sanction of several large public hospitals for the insane (where the experiment has been successfully carried out), and that many intelligent physicians, who have spent the better part of their lives in "ministering to the mind diseased," entertain very similar opinions.

My object in making these observations on the treatment of insanity is not a presumptuous attempt to dictate to the experienced superintendents of our public lunatic establishments, who know these things much better than myself, but an ardent desire to benefit the insane, by inducing general practitioners, and others not officially connected with such institutions, to inves-

tigate for themselves, in the circle of their own practice, the interesting phenomena of mental derangement. The governors of the Lincoln Asylum, in their 7th Annual Report, page 2, have truly remarked: "a circumstance this, abundantly proving what it is of public importance to know, that there is not anything in the office of director of a lunatic asylum, for which any gentleman of professional talent, firmness, and good temper, may not be deemed fully qualified. The greatest advantage may be expected from this office being thrown open to the general competition of the profession, instead of being confined to a limited and exclusive part of it. Heretofore it was conceived that the only intention of a receptacle for the insane was the safe custody of the unhappy objects, by any means however harsh and severe. These views are now passing away, and the fair measure of a superintendent's ability in the treatment of such patients will be found in the small number of restraints which are imposed." I am strongly impressed with the belief that the separation of insanity from all other diseases of the human frame, in systematic works on the subject, and its treatment conducted (as a thing apart) without reference to other diseases, are fraught with error, and have led to the most disastrous results. Until you can cut off the telegraph wires—*id est*, destroy the nervous influence (and sympathy consequent thereupon) existing between the brain (sensorium) and other important organs of the human body—you must have action and reaction taking place; and it is only by studying attentively the phenomena arising from this complicated machinery that a rational plan of treatment can be adopted. The nervous system is not a thing apart from the vascular system, but both, to constitute health, must go hand in hand together: how, then, shall we rigidly confine ourselves to diseases of the brain, when perhaps the *fons et origo mali* is located in the uterus, the stomach, or the liver? Again, why are we perplexed and confounded with the minute and infinitesimal divisions and subdivisions of insanity? *cui bono?* What says the experienced Dr. Burrows, in his lucid "Commentaries on Insanity," page 252—"From these various considerations I conclude that mania and melancholia have one common physical origin, and are one and the same disease. All classification of mental disorders consequently appears to me worse than useless; since it implies that which does not exist, a difference in the corporeal causes of mania and melancholia, as marked as in the moral causes and mental characters of the two affections." On reference to Cullen's Nosology, I find the "vesiniæ" placed in class 2, under the head "neuroses;" but in "order 4," which contains "amentia, melancholia, mania, and oneirodynia," whilst epilepsy, which every one knows is a disease frequently complicated with, or preceding, or alternating with mental derangement (with mania, melancholia, or dementia), is found in order 3 amongst the "spasmi," such as chorea, epilepsy, &c. Now, although as a general principle I abominate all hair-breadth divisions and classifications of disease, as tending only to perplex the beginner, and make confusion worse confounded, yet if mental derangement were placed in the same order with chorea and epilepsy, it is highly probable that practitioners would pause (when called to treat insanity) ere they ventured to employ the lancet, copious local blood-letting, and other powerful depletive and evacuant remedies, as is now too often done, without ever giving a thought as to the essential characters (asthenia, with great intolerance of blood-letting) of the disease. Men who have never had the opportunity of seeing lunatics treated in our large establishments, cannot divest themselves of the belief that they have got an acute inflammatory affection of the encephalon to cope with, and their practice fully confirms this supposition. In the last ten years, how many cases have I not seen where the patient's physical powers and his intellect have both succumbed to the heroic abstraction of blood, locally and generally, followed up in too many cases by the tartar emetic lustration, powerful drastic purgatives, fluid, innutritious diet, and the liberal employment of the strait waistcoat? All these evils combined, or rather the miserable consequences (chronic and incurable madness, fatuity, or fatal exhaustion) resulting from them, can only be seen to perfection in large lunatic hospitals, such as Hanwell, Lancaster, Wakefield, &c., where three-fourths of the patients you see are beyond the reach

of curative measures, and must so remain during the remainder of their lives,—a fearful monument of the chastening hand of Providence, and an indelible blot upon the scutcheon of medical science.

But to return to my original subject. The illustrious Pinel (to whom the insane owe an endless debt of gratitude for having been the first to strike off their fetters) observes, pages 87 and 88: "A maniac under the influence of the most outrageous fury shall be guilty of every extravagance, both of language and action; his excitement shall continue for several months; a dose or two of anti-spasmodics shall serve to calm the tumult, and even to produce a total cessation at least of the most violent symptoms; but we likewise know, that a certain and permanent cure may be obtained by what the French call the method of expectation, which consists in delivering up a maniac to the efforts of unassisted nature. His tumultuous effervescence is allowed upon this plan to subside by evaporation, and no more coercion is employed than what is dictated by attention to personal safety. For this purpose the strait-waistcoat (herein I do not accord with Pinel) will be generally found amply sufficient. Every cause of irritation, real or imaginary, is to be carefully avoided. No opportunity of discontent must be allowed to exist, and when discovered must be immediately removed. Improper applications for personal liberty, or any other favour, must be received with acquiescence, taken graciously into consideration, and withheld under some plausible pretext, or postponed to a more convenient opportunity. The utmost vigilance of the domestic police will be necessary to engage the exertions of every maniac, especially during his lucid intervals, in some employment, laborious or otherwise, calculated to employ his thoughts and attention. That this view of the subject is equally simple and just, would appear from the circumstance, that some maniacs, who had been thrown into a kind of imbecility and idiotism by the excessive use of the lancet, have been roused from their lethargy by a paroxysm of active mania, and left, in about a fortnight or three weeks, in the full possession of their faculties."

The same author, pages 219, 220, remarks: "'Books on medicine,' says Montesquieu, 'those monuments of nature's frailty and art's resources, when they treat of diseases, even the most trivial, would convince us that death was really at the door; but when they speak of the virtues of remedies, they place us again in marvellous security, as if we were immortal!' Are not the reflections of the above philosopher, and others of a similar cast, justified by the enormous catalogue of powders, extracts, juleps, electuaries, draughts, and epithems, which are recommended in books as remedies of great virtue in cases of insanity?

"But what are we to think of the practice of repeated blood-letting, which is so universally the fashion of the present day, without attention to the distinctions of the exciting causes, the varieties of sex or of individual constitution, and the different species and periods of the complaint? Let not the results of experience and observation be confounded with the errors of a doctrine depending for its support upon prejudices, hypothesis, pedantry, ignorance, and the authority of celebrated names."

Now, although the work of Pinel (translated by the late Dr. D. Davis), from which I have made these extracts, has been published forty-three years, I maintain that the remarks above quoted are equally apposite to the present time. Let any man of unprejudiced mind read attentively the appendix L attached to the "Further Report of the Lunacy Commissioners, 1847," and say whether the immense *farrago* of drugs, narcotics, sedatives, &c. &c. therein reported to have been administered in the various lunatic establishments, does not come within the scope of the biting sarcasm of the French philosopher.

But I need not refer to insane practice alone what obtains in the treatment of diseases affecting other parts of the human frame? In the present day we have as many new finical preparations of drugs, chemicals, &c., as the modern fine lady has flounces to her gown; and what good comes of it? Mr. Wardrop, in his admirable work on Diseases of the Heart, remarks:— "For the treatment of diseases it may be remarked that the remedies are extremely few. Though the number of different medicines be great, yet many of them have effects nearly similar on the human body. It will therefore be found, that those who have

longest and most successfully practised medicine, use a much less variety of drugs than the junior branches of the profession; and hence, also, it may be observed, that in proportion as a case is accurately or imperfectly understood, so are the prescriptions simple or complicated. It is the same in all the other arts of life; the most skilful and the most dexterous mechanic always making use of the fewest implements."

As a specimen of sound mental pathology and therapeutics, I shall take leave to quote some admirable remarks by Mr. Wilkes, the experienced superintendent of the Stafford Asylum, Further Report of Commissioners, pages 431, *et sequent*. "In the medical treatment of the cases of mania sent to this asylum, the first indication is sought in the careful examination of the patient's general condition, in ascertaining how far the cerebral excitement depends upon increased vascular action, and in detecting the nature of any bodily disorder which may be present. Although the latter is often obscure, still some derangements of the thoracic or abdominal organs, either functional or organic, is a constant complication of mania, and remedies directed to their relief are often sufficient to cure the mental disorder. In many instances, the patient, when brought to the asylum, is in so prostrate a condition, either from exhaustion, or produced by the disorder itself, from having refused food, or from the extent to which bleeding, purgatives, and low diet have been carried, that the course of treatment is at once clear, and good nourishing diet, stimulants, and tonics, often restore the patient; unless, as is too frequently the case, the symptoms of sinking have already set in.

"The injurious effects of active medical treatment in cases of mania, and the tendency there is to exhaustion and sinking, is so fully established, that the general practice in this asylum is chiefly directed to supporting the vital powers, subduing the cerebral irritation, and correcting the existing physical derangement, not by any peculiar or specific mode of treatment, but upon ordinary principles.

"In pure cases of mania, however great the excitement may be, general bleeding is never employed. The cerebral irritation is often materially relieved, and every advantage gained, by local bleeding, without materially depressing the patient's strength. For this purpose leeches to the temples or behind the ears, and cupping on the same parts, or on the nape of the neck, are the means usually employed, due regard being had, even in using these, to the amount of vascular action and condition of the patient.

"Any obvious derangement in the patient's general health, or in the function of any particular organ, is attended to, and appropriate remedies prescribed; but the usually defective state of the digestive and assimilative organs renders attention to them of much importance. The bowels when torpid are freely acted upon, and if there is nothing to contra-indicate such a course, the morbid and accumulated secretions are removed by a dose or two of calomel, either alone or combined with colocynth; and if the patient refuses medicine, croton oil and enemata are employed. If there is much exhaustion, an enema alone is prescribed.

"The excitement in mania is rather increased than relieved by low diet, and the usual difficulty is to get the patient to take sufficient food. The diet used here is ample and nutritious; and the principle of supporting the patient's strength, and making up for the waste and exhaustion which is going on in the system by an abundant supply of nutriment, is here fully acted upon.

"Thus patients who are labouring under such excitement are not restricted to the ordinary dietary, but are supplied with meat daily, soup, milk, eggs, sago, arrow-root, &c., and often with wine, brandy, ale, and other stimulants; and daily experience proves that in many chronic cases life may be prolonged by a liberal diet, and that in recent cases it alone often cures the patient, and even supersedes medical treatment.

"In acute cases of mania blisters are not often used here, as they seem to add to the excitement by the irritation they produce (Mr. Walsh, of the Lincoln Asylum, is also opposed to counter-irritants—he says "they do not act as counter-irritants on any local part, but as direct irritants on the whole nervous system, and by that means diminish the vital powers, which require support from good food, air, exercise, &c."). In cases of chronic mania they are employed, and espe-

cially when there is evidence of slow mischief going on in the brain.

"Remarks. *Emetics.*—These, as directed to the treatment of insanity, are never employed in this asylum; nor are the depressing doses of tartarised antimony, which some practitioners recommend. In cases of gastric or biliary derangement, in which emetics would be indicated under other circumstances, they are occasionally employed.

"To the observations on general bleeding I may add, that not only is there a want of proof of relief having been obtained by this popular remedy in any of the cases brought to this asylum in which it has been practised, but its injurious effects have been so repeatedly and decidedly witnessed, either in producing fatal exhaustion, or reducing the patient to a hopeless state of imbecility, that in cases of simple mania, uncombined with inflammation, its adoption cannot be too strongly deprecated.

"In reference to the diet of the insane, daily observation increases my conviction that a liberal supply of good nutritious food both adds to the recoveries and diminishes the mortality in institutions for the insane; being an important means of cure in recent cases, and of prolonging life in the chronic and incurable."

The Lincoln governors, in their Eighteenth Annual Report, 1842, remark—"The treatment of insanity in modern times has become more and more successful. This may be divided into the medical treatment of the insane, and the general economy of their management. The strictly medical practice may be said to have made very insignificant advance; and it may at once be distinctly stated, that the expectation of success under any specific medical means is founded on the most erroneous principle. Many diseased structures, and many disordered functions, in various parts of the human frame, may directly, or by sympathy, produce derangement in the corporeal organs, and in the operations of the conscious power. It is clear that sound practice must depend upon a systematic classification of the different exciting causes which affect these organs; and though the intellectual symptoms may appear identical, it is clear that these exciting and sustaining causes must be considered in practice as so many distinct species of disease. Nor should the great rarity of insanity originating in the disturbance of certain functions, or from rarely occurring causes, at all prevent them from being studied as objects of distinct treatment.

"But the prospect is very different when we turn to the results arising from an improved general economy in the management of the insane. Nature has powerful restorative tendencies here as in all other cases; and lunatics have recovered under the most opposite and even hostile modes of treatment. These improvements have been negative rather than positive, and have consisted in giving nature free play, and removing, as far as possible, all obstructions to her healthy action.

"It is now established that a vast number of recoveries are effected without any specific medical treatment beyond such as is required in ordinary life; and that these important results have arisen from attention to some plain and obvious principles."

"*Hygiene.*—The patients are removed from associations, and sources of irritation, and habits connected with the origin of the complaint.

"Their hours of rising, retiring to rest, and meals, and their habits of every kind, are punctual and regular.

"Their diet, very carefully considered and reconsidered, is arranged to be nutritious, easy of digestion, not too fluid, varied, and agreeable to their taste.

"Their dietary is arranged so as to avoid the stimulus of the abuse of condiments, and especially stimulating drinks.

"Their dress is warm, according to the season, and carefully dried. (During my house-surgeoncy, I proposed that the dress of the ordinary or third rank patients should be of woollen material instead of fustian, which I thought too cold for winter,—the Board adopted my suggestion, and woollen clothing has been in use ever since.)

"At night they have plenty of clothing; board floors have been laid down throughout the house, to prevent the effects of cold; and upon the same principle even the metal bottoms of the bedsteads of uncleanly patients have been removed; night socks are regularly supplied where needed. (As a

general principle, the circulation is extremely languid in lunatics as compared with other persons; and even during many of the summer months they will eagerly crowd round a bright coal fire, plainly indicating thereby that the radiated heat is agreeable to them. There cannot be a more fatal error in the whole range of asylum management than to suppose that lunatics can bear with impunity low degrees of temperature.)

"Their skin is kept clean by the periodic use of the bath. I am decidedly of opinion that the cold shower bath as a tonic is not employed so frequently as its merits deserve. I have seen the greatest advantage derived from its steady employment in the nervous diseases of females; and the same remedies which cure hysteria, chorea, &c., are generally applicable to insanity in its various forms.

"The free action of the lungs is considered of primary importance, and is secured by the absence of restraint, the careful ventilation of the house, spacious galleries (not artificially warmed) for exercise in wet weather, and the utmost possible use of out-door exercise, engagement, and recreation, as far as the weather will allow cheerfulness of aspect by the light and pervision of the apartments, and cheerful amusement, are in every way encouraged, and as much life and variety as possible promoted. I have the extreme satisfaction of being able to say that the periodic balls at the Lincoln Asylum were introduced by myself. The first entertainment of that sort, on a small scale of course, took place on the occasion of one of the birthdays of Her Most Gracious Majesty the Queen. They were found to draw out the patients from their internal reverie and morbid concatenation of ideas: and hence their extreme value in asylum management.

"The secretions and excretions of the system are very carefully attended to. That the secretions of the skin are often greatly disordered in insanity, I need only refer to the fact of a certain peculiar odour perceivable about the insane —a circumstance particularly pointed out by Dr. Burrows. A female patient became maniacal in the General Hospital at Lincoln, during my house-surgeoncy; the physician in attendance did not agree with me as to the fact of her insanity, but on calling in the senior physician, Dr. Charlesworth, he at once coincided with my view of the case. My diagnosis in this case was mainly formed by the disagreeable odour emanating from the patient's skin. Dr. Burrows mentions a similar instance, where a lady convinced herself of the nature of her daughter's malady by entering her sleeping apartments early in the morning previous to any fresh air having been admitted into it.

"A daily report is made of the state of the patient's bowels.

"There is a studious avoidance of all depletive, exhausting, and depressing influences.

"Every species of irritation from instrumental restraint and lengthened struggles with attendants, or improper demeanour, and of depression from solitary confinement, or seclusive classification, are discountenanced.

"Habits of moral self-restraint and self-respect are encouraged.

"Family prayers encourage habits of self-control and propriety of demeanour, and the danger of fanatical addresses is avoided.

"The patients have every possible appearance of liberty, and are brought as far as possible to the habits, influences, and intercourse of ordinary life."

I believe that I shall not exceed the boundaries of truth when I say that the Lincoln Asylum has done more towards breaking down the mischievous barrier formerly existing between society and the insane than any other institution in the kingdom: this principle wants carrying out still further. So long as insanity continues to be looked upon as a crime, and lunatics are viewed somewhat in the light of modern lepers, so long will unnecessary privacy be affected in private mad-houses, under the specious plea of not having them looked at; and until "the public eye and public opinion" can thoroughly penetrate into every cranny and hook of public and private lunatic establishments, so long will neglect, cruelty, and oppression be perpetrated on wretched inmates with all but impunity.

Belper, South Derbyshire,
September 29.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, OCTOBER 26, 1849.

A MONTH seldom passes without our receiving one or more communications from medical practitioners regarding the ill-treatment which they have sustained at the hands of Coroners or Deputy-coroners. In some cases these complaints are but too well founded. Small as the fee is which is allotted by Act of Parliament to the performance of very responsible and troublesome services, the medical witness is often deprived of it either through his own want of caution, or the sharp practice of those with whom he has to deal. Not long since, a coroner refused to pay to a practitioner, the usual fee of two guineas for a post-mortem examination, because he (the witness) very judiciously declined, on account of his own want of experience, to undertake an elaborate analysis of the contents of the stomach and viscera. The Coroner wished to have for this Parliamentary fee refined chemistry as well as pathology, and attempted to extort it from the medical witness under a threat of withholding the fee altogether! The witness had, however, taken care not to act in the case before he had received a *regular summons*, and the *legal* coroner was compelled to pay him. No Act of Parliament can force a man to give evidence on a subject which he does not comprehend; and we should have thought that any coroner provided with only an average amount of brains would have known that evidence received from a witness on a subject of which he admitted his entire ignorance, could not be made available to clear up the cause of death, and never could be serviceable to the course of justice.

The Medical Witnesses' Act was passed expressly for the purpose of providing a small but *certain* remuneration to any practitioner *duly summoned* to give medical evidence at a Coroner's inquest; but its provisions have been in many cases shamefully evaded. It is now in the power of a legal coroner, if he entertain any personal feeling against a medical practitioner, so to lay his plans that the unfortunate witness shall give his evidence, and enable the jury to return a correct verdict, and yet it will be subsequently proved that he (the witness) is, in *point of law*, no more entitled to one farthing for his attendance and medical evidence than the constable of the parish.

Although the Medical Witnesses' Act plainly specifies in the Preamble, that, upon the holding of any Inquest, "it shall be *lawful* for the Coroner to issue his order in the form marked (A) in the Schedule annexed, for the attendance of such practitioner as a witness at such inquest," this direction is frequently evaded, and a very loose practice has arisen of summoning medical witnesses to inquests by *verbal messages* conveyed through constables or other persons. Another plan consists in issuing what is called a *common summons*, and then, taking advantage of the witness's ignorance of the difference, the Coroner or his Deputy declines paying the fee because the summons is not worded according to the Act! We have known only one instance of this clever practice*: the medical witness was completely deceived, for he did not even know that more than one kind of order could be issued by a coroner, and he mistook the *common* for the *regular summons* under the Medical Witnesses' Act. He ultimately obtained his fee by application to the County Court,

* See case of Synnot *v.* Mills, in vol. xl. of this journal, p. 1080; also pp. 994, 1059, and 1081.

but lost his costs, on the ground of some informality in the form of laying his plaint. It should be known to all medical practitioners that the law does not compel a coroner to issue a summons under the act,—all that it says is—*it shall be lawful for him* to issue the order; but it is also lawful for him, if he pleases, to procure the attendance of a man by a polite message through a constable, or to issue a summons as for an ordinary witness, and to take the chance of the medical practitioner mistaking it for the usual order. All this is lawful—of its fairness we say nothing; but law and justice, except by a legal fiction, do not always go hand in hand; and some medical practitioners in dealing with Coroners have made this discovery to their great cost. We must, however, admit, that as a general rule a medical witness is careless of his rights and privileges, and that in most cases in which he complains of ill treatment from Coroners it will be found that he has himself wholly disregarded the provision which the law has made for his protection from injustice.

No practitioner can be compelled to attend an inquest for the purpose of giving *medical* evidence, touching the *cause of death*, except by the regular form of summons under the act,* signed by the Coroner. A message by a constable is *not* a summons, and the law never intended that it should be so considered. As to an *ordinary summons*, if issued and duly signed by a coroner a medical practitioner is bound to obey it; but he then attends only in the capacity of an ordinary, and *not as a professional witness;* nor can the Coroner require him to give *medical* evidence regarding the *cause of death* upon such a summons. The act provides further, that when any medical practitioner has attended upon any coroner's inquest *in obedience to any such order* (*i. e.* the medical summons under the act), he shall be entitled to receive the fees fixed by the act. It is, then, this order only which carries the fees; and if a medical man chooses, in defiance of this legal protection, to attend an inquest and give medical evidence upon a verbal message, or upon a summons not made out according to the act, he has no right to complain of the law. He has voluntarily cast off the protection afforded to him, and is thenceforth at the mercy of the functionary who has procured his attendance in this indirect way. It is true that in many districts there may be a sort of a mutual understanding that the constable's message will have all the force of a *legal* summons; but it is quite time that the eyes of the profession should be opened to the gross absurdity of dealing with lawyers in any other way than in strict accordance with law. A slight squabble with the Coroner during the proceedings may lead to the refusal of the fee, and there is at once an end of the claim. Let the following case of LORD *v.* WAKLEY be henceforth borne in mind by those who are disposed to place confidence in messages conveyed by constables. We have struck out of Mr. Lord's letter passages which appeared to us to be irrelevant in a statement of facts, and also some poetry, because the case itself is really one of the most matter-of-fact and unpoetical that we have ever met with.

CASE FOR THE PLAINTIFF.

SIR,—I beg to direct your attention to a cause heard to-day in the Westminster County Court. The facts for the medical public may be thus briefly stated:—

Several persons residing in rooms over a stable, having died of cholera, a relative who had been much in the locality came under my treatment at the Dispensary with neglected colic and diarrhœa, which terminated

* See the act itself, 6 and 7 William IV. ch. 85. This act, as well as the 1st Victoria, ch. 85, on the payment of fees *immediately* after the termination of the inquest, should be in the hands of every medical man liable to be summoned as a witness.

fatally in cholera. An inquest being held, the above simple recital was given by the friends of the deceased, and so much of it as related to the cause of death deposed to on oath by myself. Because I objected, as for years past I have done, to state the medical treatment* I had thought fit to adopt, the Coroner adjourned the inquest, that a post-mortem examination might be made by a neighbouring surgeon. He sharply rebuked what he was pleased to designate my shameful behaviour, broadly asserted his belief that I objected on the score of my having some secret remedy which I would not divulge, or that I had adopted a practice I was ashamed to mention.

At the adjourned inquest, Mr. Shaw, who had examined the body, stated his conviction that death had arisen from malignant cholera. The coroner blamed him for not having analysed the contents of the stomach, and added that "*he at least*, whatever the jury might do, should not feel satisfied without the analysis, as the adjournment had taken place in consequence of Mr. Lord's refusing to state his treatment, and to find out what Mr. Lord had put in the deceased's stomach. The verdict, however, was returned of Death from Cholera, coupled with some expression of surprise or disapproval of my not stating my treatment. The coroner stated, that as I upon principle had objected to tell what I had prescribed for the patient, he upon principle should refuse to pay the fee. As I had attended at the *message* of the coroner, sent to me through his constable, I thought it right to ask him, in the presence of Mr. Richard Perry, surgeon, if he declined giving me the fee in consequence of the *informal* notice or order: he replied "he did not, he frequently paid where no official summons was issued,—that his objection was founded *upon my refusing to complete my evidence.*" This morning, however (though Mr. Perry was in court to have proved the above), Mr. H. M. Wakley pleaded in defence that the summons was made out for the *coroner*, while he was the *deputy*-coroner; that *his* residence was *not* 1, Bedford Street (which was the office of the coroner); and these two flimsy objections being overruled by the judge, the deputy-coroner obtained a "nonsuit" on the ground which he had disclaimed to me in the presence of Mr. Perry—viz. that I had not received from him the written formal order, in legal verbal accordance with the Act of Parliament.

In the abstract I can have as little interest as possible in the issue of such cases, but it is most important for the medical profession to be satisfied as to their duty or legal obligation (under pain of Newgate) to answer *all questions*, under *all circumstances*, which a coroner may think fit to put to them. It is right that the coroner should have large powers entrusted to him for public good, but he is apt *wrongfully* to use these powers; it is most especially *wrong* that he be allowed to impugn the characters of medical witnesses by the mere *suspicion* engendered through his wantonly calling for the recital of medical treatment, the correctness of which a coroner and jury can know little more about than a man in the moon, and have no power to adjudicate upon even if they did.—I am, sir,

Your obedient servant,

CHARLES F. J. LORD.

Hampstead, Oct. 16, 1849.

We received this letter last week too late for insertion. We do not now regret this, because it gives us an opportunity of quoting from a leading article in our contemporary the *Lancet*, of October 20th, that which we presume must be regarded as the

CASE FOR THE DEFENDANT.

"On Tuesday last, Mr. Lord, surgeon, of Hampstead, appeared in the County Court for the purpose of claiming a fee of one guinea from Mr. H. Membury Wakley, deputy-coroner for Middlesex, for attending at an inquest held at Hampstead in August last. Mr. Crouch was counsel for Mr. Lord, and stated the case of the plaintiff with frankness and truth; and after hearing the objections urged by the deputy-coroner, and without having a single witness called, the learned judge, Mr. Moylan, at once decided that the plaintiff must be non-suited; and thus Mr. Lord is saddled with the costs of his own very foolish proceeding.

"The facts of the case are these. At an inquest held at Hampstead, in the month before stated, Mr. Lord, *at the request of the deputy-coroner, conveyed to him by the constable, attended as a witness.* In the progress of the inquiry, Mr. Lord was asked relative to his treatment of the patient. He refused to answer the question. The jury urged it. Still he refused it. He refused, he said, 'on principle,' and on the ground, that the jury, not being medical men, could not understand medical testimony. He was told by the deputy-coroner that he was liable to be committed for his refusal. Still he refused, on the single plea that the jury could not understand his testimony. The deputy-coroner, not liking to adopt any harsh proceeding towards Mr. Lord, who, he believed, had acted without any evil intention, but solely from mistaking his posi-

* This was muriate of soda and citric acid, frequent subsequent cold drinks, with nitrate of potass in solution.

tion and his duty as a witness, was obliged, owing to the obstinacy of Mr. Lord, to adjourn the inquest, and cause a post-mortem examination of the body to be made by another practitioner. At the conclusion of the inquiry, Mr. Lord, nothing daunted, but being, as we think, very badly advised, asked for his fee. *The deputy-coroner told him, that 'on principle'—quoting Mr. Lord's own words—he was obliged to withhold it; that as he had refused to give the requisite evidence, he certainly should be refused the fee.* Mr. Lord, not being satisfied, summoned the deputy-coroner in the County Court; and he now finds, that in addition to being a contumacious witness, he has become a non-suited plaintiff, and saddled with the costs attendant upon his own unreasonable conduct.

"Out of the many thousands of medical witnesses who have been examined under the provisions of the Medical Witnesses' Act, Mr. Lord is the only medical practitioner who has thus acted. Probably he thinks that all the wisdom of the profession finds a place in his own sapient noddle. It is fortunate, however, that other practitioners do not adopt a similar line of policy; *if they did, the Medical Witnesses' Act would not outlive a single session of Parliament, and a measure which has been productive of so much advantage and utility to the profession would be at once unhesitatingly repealed.*

"Mr. Lord forgets that the jury are sworn to inquire into the *cause* of the death, and that in tracing out the investigation it is *sometimes* absolutely necessary to ask the medical practitioner as to his treatment of the patient. Only last week, in the case in which the homœopathic practitioner was committed to Newgate by Mr. H. Membury Wakley, the same deputy-coroner, what was stated by the surgeon who made a post-mortem examination of the body? Why, that he had found *arsenic* in the stomach. How came it there? The circumstance might really have involved a criminal accusation against a relative, had not the homœopathic practitioner, with a candour to which Mr. Lord is a stranger, frankly acknowledged that he had administered arsenic to the patient, as a medicine. Mr. Lord has now heard from the lips of the judge of the County Court,* that when a witness is examined, it rests not with him to determine whether he shall answer a question or not, and that he must submit to the just authority of the law, a state of things with which the whole medical profession of the United Kingdom is acquainted, with the single exception of the knowing Mr. Lord, of Hampstead."*

The facts of this case, as it appears to us, are comprised in a very narrow compass. 1. Mr. Lord attended the inquest on a *verbal message* from the deputy coroner, conveyed to him by a constable. 2. The summons annexed to the act, and which it is *lawful* for the coroner to give, was *not issued* by him, and the issuing of it was waived by Mr. Lord. 3. Mr. Lord deposed to the cause of death, and his deposition was subsequently confirmed by the evidence of another medical man, but he positively refused to answer a question put to him regarding the *treatment* of the case (one of malignant cholera). 4. When Mr. Lord applied for his fee, the deputy coroner told him that as he had refused to give the requisite evidence, he certainly should be refused the fee. 5. Mr. Lord having only the verbal message of the constable as the *legal* foundation of his claim, sued the deputy coroner in the county court. 6. The deputy coroner, abandoning the ground assigned at the inquest, that the fee had been really refused because the witness had declined answering a question on treatment, pleaded in the county court that Mr. Lord had not received from him a formal order under the act, and that therefore he had no legal claim for the fee! Mr. Lord was accordingly non-suited, for he had no more *legal* claim for a medical fee in this case than the constable who, at the request of the coroner, had conveyed to him the message requiring his attendance.

The decision here given by the judge may have been in strict accordance with law, but it is, we think, impossible to come to any other conclusion from the facts, than that Mr. Lord has been

* The plaintiff was nonsuited because he had not a regular order. We do not find from the report of the proceedings that the County Court judge had to decide whether Mr. Lord was right or wrong in not answering a question put to him by the coroner.

* The italics are our own.

treated in this case with the greatest injustice. The first wrong was committed by the deputy coroner, in not acting up to the spirit and intention of the act, which the profession owes to the indefatigable industry and ability of his father, Mr. Thomas Wakley. It is entitled "*An Act to provide for the Attendance and Remuneration of Medical Witnesses at Coroners' Inquests.*" A plain question now presents itself: Of what use is such an act as this, if a coroner can procure the attendance of a medical practitioner by a verbal message, and then refuse to remunerate him because the witness cannot produce an order which he, the coroner, contrary to the intention and provisions of the act, wilfully omitted to issue? If such is to be the mode of dealing with this useful statute, it may indeed be said that it should "not outlive a single session of Parliament, and a measure which has been productive of so much advantage and utility to the profession, should be at once unhesitatingly repealed." It will be perceived that, to Mr. Lord's misfortune, the Medical Witnesses' Act had really nothing whatever to do with this case. The Deputy Coroner laid it aside altogether, and Mr. Lord trusted to a verbal message as if it had had the force of a regular summons under the act.

In refusing to answer the question respecting the *treatment* of the case, put by the Coroner, we think Mr. Lord was decidedly in the wrong. A witness, *duly summoned*, is bound to answer every question put by a coroner, excepting when the answer may criminate himself.* It may or may not be irrelevant to the issue, but of this the witness must not be permitted to judge. Many most irrelevant questions are often put at inquests: answers should always be returned to them to the best of the witness's ability. A man is sworn to state the truth, the whole truth, and nothing but the truth; whereas, if the practice pursued by the plaintiff in this case were to be universally followed, every witness would claim the privilege of answering only just so much as *he* thought bore upon the case. Under such a system coroners' inquests could not be conducted. Mr. Lord did not sufficiently consider, that what was claimed by him on this occasion, in reference, as we believe in *this* instance, to an unimportant point, might be claimed by others, on other occasions, to the complete defeat of justice. The plaintiff, therefore, put himself in the wrong, by declining to answer the question.

Although an answer to the question respecting treatment was in this instance proved by the evidence of Mr. Shaw to have been quite unimportant to the issue, the coroner had no power, on the ground of Mr. Lord's refusal to answer it, to withhold the fee. This mode of punishing contumacious medical witnesses is unknown to English law, and is certainly not conferred on the Coroner by the Medical Witnesses' or any other act. We regard it, therefore, as a little slice of Tartar law, introduced at the discretion of the Deputy, *pro hâc vice*. The law gives to a coroner full power to punish a witness who refuses to give evidence upon the subject of inquiry, by committing him to prison. If Mr. H. Membury Wakley considered that in this case the inquiry into the *cause of death* was seriously interfered with by Mr. Lord's refusal to state how he had treated this case of cholera, and what he had put into the deceased's stomach, it was his duty to have committed him

* Mr. Lord was *not* duly summoned, and therefore might have safely and legally refused to answer the question; but he was evidently not aware of his true position at the time. The English coroner has not the power of a Turkish Pasha, to make the law bend to his own fancies; *i.e.* to depart from it when he requires the attendance of a witness, and to enforce it when the witness is before him.

at once to prison. A *habeas* would have immediately released Mr. Lord, and have given him a good ground of action against the deputy; since the coroner not having, according to his own admission, issued a legal summons to Mr. Lord, could not legally commit him as a witness for refusing to answer a medical question. Further than this, there are now so many popular members in the House of Commons who are ready to defend the "People's rights," and to vindicate the least infringement of the "liberty of the subject," that no coroner would have the courage to commit to prison a witness who refused to answer a question which could be proved to be, medically speaking, quite unimportant to the inquiry. It could only be a very extreme case which would justify the exercise of such a power towards a medical practitioner; and, so far as it appears from the reports, such an extreme case certainly did not present itself at the Hampstead Inquest. It was on the whole, therefore, a prudent proceeding on the part of the deputy that Mr. Lord was not committed to Newgate; but it was certainly most irregular that the refusal to pay the fee should have been placed upon this illegal ground.

Having, however, taken up this position, and informed Mr. Lord at the inquest, that "as he had refused the requisite (?) evidence, he certainly should be refused the fee," the deputy coroner should, in our judgment, have had the candour and fairness to have made *this* his plea of defence before the Judge of the County Court. Instead of this, however, he pleaded that the plaintiff could *not* produce a legal order to attend as a witness, when he knew that he had himself requested his attendance by a message through a constable! The only inference to be drawn from such a defence, made under such circumstances, is that any medical man who may be hereafter foolish enough to trust to a verbal message from a coroner or his deputy, as a legal ground for attending an inquest, will deserve to lose his fee. Let medical practitioners ponder on the result of this case. Instead of being paid for his evidence and attendance, Mr. Lord has lost his fee, and, apparently to the great satisfaction of the deputy coroner, has had to pay the costs incurred in the County Court. He had no case, for he had acted as a witness without waiting for a legal summons; and the supposition that a lawyer would forego any point which told in his favour, even although he had by his own omission or neglect actually created the point, is nothing less than a wild delusion.

Reviews.

1. *Treatment of Cholera in the Royal Hospital, Haslar, during the months of July and August*, 1849: *with remarks on the Name and Origin of the Disease.* By JOHN WILSON, M.D., F.R.S., Inspector of Naval Hospitals and Fleets. Pamphlet, 8vo. pp. 36. London: Simpkin and Co. 1849.
2. *Contributions to the Pathology of Cholera; embracing its History, Modifications, Stages, and Treatment, as the Disease appeared in the Bombay Presidency, from* 1818 *to* 1842. By JAMES BIRD, A.M., M.D., formerly Surgeon of the European General Hospital at Bombay, late Physician-General, Bombay Army. Pamphlet, 8vo. pp. 48. London: Churchill. 1849.
3. *Cholera: an Inquiry, Physiological and Pathological, into its Proximate Cause.* By PROTHEROE SMITH, M.D. Pamphlet, 8vo. pp. 40. London: Baillière. 1849.
4. *A Treatise on Cholera.* By NATHANIEL ALCOCK, A.B., M.B., Physician to Kilkenny City Gaol, and Surgeon to the County Infirmary, &c. 8vo. pp. 189. London: Churchill. 1849.
5. *The Cholera considered Psychol* o

gically. By Forbes Winslow, M.D. Pamphlet, 8vo. pp. 15. London: Churchill. 1849.

6. *Cholera: an Analysis of its Epidemic, Endemic, and Contagious Character; with original and peculiar views of its Mode of Propagation, and the means of Counteracting it. Showing also by analogy that the means of preserving bodies from decay point to the only true curative principles in the treatment of fevers generally, and more especially of Cholera.* By Henry Stephens, M.R.C.S.E. 8vo. pp. 47. London: Renshaw. 1849.
7. *The Pathology, Treatment, and Prevention of Cholera.* By George Fife, M.D., late Physician to the Sunderland Infirmary, &c., &c. Pamphlet, 8vo. pp. 20. London: Simpkin. Newcastle: Maclean and Co. 1848.
8. *Practical Observations on Cholera, and other Epidemic, Endemic, and Contagious Diseases; with their Cause, Prevention, and Treatment: principally deduced from Diet, Cleanliness, and Ventilation.* By Frederick Hanham, M.R.C.S.E., &c. Pamphlet, pp. 23. Bath: Binns and Co. 1849.
9. *On Sulphur as a Remedy in Epidemic Cholera.* By John Grove, M.R.C.S., and L.S.A. Pamphlet, pp. 50. London: Ridgway. 1849.
10. *Cholera, its Cause and Prevention; extracted from a Lecture delivered by* Mr. Joscelyn Cooke, Professor of Chemistry and Electricity at the Polytechnic Exhibition, Cliff, Scarborough.
11. *Directions for the Management of Cholera in the absence of Medical Advice.* By Henry M'Cormac, M.D. Second edition. Pamphlet, 12mo. pp. 12. Belfast. 1849.
12. *Cholera: its Causes, Symptoms, and Treatment considered and explained.* By J. P. Batchelder, M.D., of New York City. Pamphlet, 8vo. pp. 45. New York. 1849.
13. *Le Choléra devant l'Humanité.* Par Edouard Feraud, Docteur en Médécine. Pamphlet, 8vo. pp. 68. Paris. 1849.
14. *Mémoire sur le Developpement, les Causes et le Traitement du Choléra.* Par Eh. Dvorjak, Médecin de la Cour Impériale. Pamphlet, 8vo. pp. 31. Saint-Petersbourg. 1848.
15. *Malignant Cholera: its Mode of Propagation, and its Prevention.* By William Budd, M.D., Physician to the Bristol Infirmary. Pamphlet, 8vo. pp. 30. London: Churchill. 1849.
16. *Observations on the subject of Cholera, adapted for the general reader.* By George G. Bird, M.D., Physician to the Swansea Infirmary. 8vo. pp. 104. Swansea: Davies. London: Wood. 1849.
17. *Electricity as a cause of Cholera or other Epidemics, and the relation of Galvanism to the action of remedies.* By Sir James Murray, M.D., T.C.D. and Ed., M.R.C.S.E., Inspector of Anatomy. 12mo. pp. 160. Dublin: M'Glashan. London: Orr and Co. Edinburgh: Oliver and Boyd.

We shall bring before our readers the chief points of these several publications, accompanied by such remarks as they may suggest and our space will admit.

1. The treatment adopted by Dr. Wilson is as follows:—A hot bath, from 104° to 112° Fahr., with diligent frictions of the abdomen and extremities. While in the bath a drachm of tincture of opium was administered to the patient; if this was rejected two grains of calomel were given every hour or every half hour, with half a drachm of oil of turpentine in mucilage every hour or every second hour; an enema, consisting of two ounces of oil of turpentine, two drachms of tincture of opium, three ounces of mucilage, and three ounces of camphor mixture, repeated according to circumstances. Such was the treatment relied upon in the main, though various auxiliaries were from time to time employed.

> "The results on the whole were satisfactory. Though not such as were desired or even hoped for, they at least exhibited a full average amount of success, inspired confidence, and tended to support the belief that the practice was founded on right principles. Of 37 cases admitted, 12 terminated in death, the remainder in complete recovery." (p. 8.)

Dr. Wilson submits the practice here pursued, because the success which has followed it has been fully as great

as that which has attended any other plan of treatment, "and because it is thought that any contribution to the therapeutics of cholera will be acceptable."

Dr. Wilson considers the adjective appellatives coupled with the name cholera as inappropriate and confusing. The epithet "Asiatic" is not more strictly correct than would be "American;" neither is "spasmodic" sufficiently distinctive, inasmuch as spasms accompany bilious cholera; and the terms "malignant," "pestilential," &c., the author observes "convey no idea but that of destructive force, and are destitute of discriminative meaning." (p. 13.)

Dr. Wilson proposes the names "*cholera abiliosa* and "*cholera biliosa.*" We do not, however, coincide in opinion with the author that these terms would be sufficiently distinctive and discriminating. There is a severe form of diarrhœa known as serous diarrhœa, in which, nevertheless, the absence of bile from the dejections does not constitute the disease cholera, but into which the attack might merge during the prevalence of cholera in a district. The two forms of disease could not be distinguished by Dr. Wilson's nomenclature. If we are not mistaken, this objection was raised against the name *acholea*, proposed some years since by Dr. Elliotson. Critically, we might also object to the use of two epithets derived from different languages, to express one disease; *cholera* being of Greek, and *abiliosa* of mixed derivation.

Dr. Wilson defends the non-contagiousness of cholera, assuming as an incontrovertible position that it is "not an imported product of any foreign country, near or remote, but is as much the product of the places and circumstances of the subjects where it exists, as is ague or bronchocele." (p. 13.) In support of this position he cites the history of the nearly simultaneous appearance of the cholera in Gosport, Portsea, Portsmouth, and Southsea, Southampton, Salisbury, Bristol, and Plymouth; advancing that "such simultaneous eruptions of disease in different and distant places appear incompatible with the hypothesis of contagion." We do not, however, considering the amount of intercourse between these several places, regard their respective distances as sufficient to interpose a physical incompatibility with the spread of the disease by individual communication. Neither is the general history of cholera consistent with Dr. Wilson's view. We shall, however, hereafter take occasion to offer a few remarks on the proofs of the contagiousness of cholera.

The author leaves the cause of cholera as undetermined as have most of his predecessors. He is, however, disposed to class this disease among fevers. One reason assigned for this opinion is, that "both before the outbreak of cholera, and on its subsidence, fever of a type more or less distinctly marked, with predominance of gastric symptoms, is more frequent than usual." (p. 28.)

This line of argument we hold to be somewhat loose; for when examined by the light of facts, it amounts just to this—that fever is more or less prevalent yearly in England as well as elsewhere,—that cholera has been prevalent during the present year, and consequently during its prevalence there have been fewer subjects of fever than previously to its appearance,—and that on its subsidence we may in the ordinary course of events look for a proportionate return of fever cases.

2. Dr James Bird's pamphlet furnishes "contributions to the pathology of cholera," arranged under the five following heads—viz. 1. History of the disease as observed at various times and places since 1818. 2. Modifications; symptoms and stages considered collectively. 3. Particular symptoms originating in the perverted functional action of individual organs. 4. Post-mortem appearances and pathology. 5. Treatment.

The history of the disease embraces only its appearance and progress, as observed by the author in India within the period above indicated. A sufficiently extensive field was doubtless here afforded to have enabled the author to form an opinion thereon. Dr. Bird considers the disease to originate from endemico-epidemic causes; but "manifesting in its progress from place to place that it attaches itself to masses of the people assembled for the purpose of celebrating religious festivals, and can in this way be disseminated from person to person." Dr. Bird gives in a tabular form the cir-

cumstances of the outbreak and transfer of the disease from place to place in ten instances, which he thinks sufficient to convince his readers "that cholera of endemic origin, under a community of habits, and of atmospheric conditions, can become transmissible from locality to locality, and from the sick to the healthy, who breathe the same atmosphere in ill-ventilated apartments." We concur in his opinion.

In the succeeding section the author describes the modifications, stages, and symptoms of the disease. The varieties seen by Dr. Bird are comprehended under the "diarrhœal, pyrexial, and asphyxial forms." Each form is exhibited in the details of several cases, and with the author's consideration of particular symptoms originating in the perverted functions of individual organs: the post-mortem appearances, pathological anatomy, and treatment, constitute a faithful description, and most valuable record of the disease.

3. Dr. P. Smith's pamphlet was originally published at the close of the visitation of cholera in 1832-3. It is now reprinted "in the hope of its yielding some points of interest to those members of the profession who are engaged in investigating the true nature of cholera." Dr. Smith divided the disease as he then saw it into three stages—1st, the inflammatory or stage of excitement; 2d, that of collapse; 3rd, that of consecutive fever. Our own experience of that time does not recal to our minds the "inflammatory" onset of the disease. Neither do we find this feature noticed by other authors.

Thls pamphlet may be of interest in the establishment of a comparison of the two visitations.

4. Dr. Nathaniel Alcock's treatise is, in our judgment, written in much too fierce a tone. After a rhetorical flourish in the dedication, apparently to announce the author's classical attainments; and a blast of defiance to all critics, this bellicose M.B. commences an attack upon Annesley, Bell, and all who have advised bleeding in cholera. Long digressions upon Artesian wells, and extensive quotations from poets, may serve towards the manufacture of a book, but they contribute little to the strength of an argument.

In his observations on precautionary measures, the author transfers to eleven of his pages an article on "Sympathy" from Chambers' Journal. In an address to the Dublin Board of Health, Dr. Nathaniel Alcock disposes in an off-hand way of the "contagiousness" of cholera. We take leave, however, to hint that, divested of forcible words, the data offered are insufficient for the determination of this difficult question. The remainder of the work is occupied by "notes and annotations; an attack on Dr. Graves, also on Mr. Kirby; an examination of, or rather second attack upon, the doctrines of Annesley, Bell, and Greenhow; reports of some cases at Paris by Dr. Jackson; and an article headed — with bad taste—"Tooting Massacre!"

We have found throughout this volume but few—very few indeed—of the "grains of sound corn" to which the author refers in his "conclusion" as being mixed with a "vast deal of chaff."

We doubt if the author in after-life will ever feel able to apply to this his first attempt at authorship the words of Ænæas, "*Forsan et hæc olim meminisse juvabit.*" We rather incline to the belief that years and experience will connect a sense of humiliation with the recollection of this essay.

5. Dr. Winslow, in his brief remarks, clearly and eloquently sets forth the protective physiological influence of confidence and hope, and urges the importance, whether by acts of public national humiliation before Almighty God, or by other means, "of abstracting the public mind from its own distressing apprehensions, and thus rendering the system less liable to be acted upon by those physical agents alleged to give rise to the disease."

"Every legitimate mode of inducing cheerfulness and serenity of mind should be as much as possible encouraged." (p. 13.)

We should gladly quote more largely from this pamphlet, but that we prefer to commend its entire perusal to our readers. Its object is laudable, its execution classical.

6. Mr. Stephens sets out with the study of the peculiar character of contagious, epidemic, and malarious diseases, and justly observes that, although they may have distinct origins, they

have many features in common, and may by the influence of circumstances replace each other. Regarding these as moreover dependent on special poisons, which have special organs of admission into the body, the author points out that they become distributed throughout the body by contamination of the blood. The remedies for diseases emanating from this class of poisons are, in his opinion, those substances which have the power of arresting putrefaction, and of preserving dead animal or vegetable substances from decomposition or decay. The antiseptics to which the author refers are mercury, arsenic, creosote, alum, the salts of copper and iron, pyroligneous acid, barks of wood, alcohol, &c., &c. In cholera the author trusts mainly to calomel. In diarrhœa he has found creosote serviceable. The author adds his reasons for regarding cholera as a contagious disease. We shall again refer to these, and in the meantime commend this pamphlet as a sensible and practically useful contribution to our knowledge.

7. The chief points of Dr. Fife's remarks are that the cholera originates in "atmospheric peculiarity connected with electricity," and that it consists in an abstraction of nervous energy from the cerebro-spinal system of nerves. The grounds of the former conclusion are as follows:—cholera occurs in healthy and unhealthy situations, in places abounding with and free from miasmata, in cold and in hot climates, and at every season of the year. The meteorological "appearance of a peculiarly dark murky cloud, circumscribed as to extent, and well defined, the rest of the sky being perfectly cloudless." The figure of this cloud is accurately described by the author. "The electrical origin of cholera," Dr. Fife states, "acquires further support from the well-known property of electricity, not only to temporarily localise itself, but also to pursue a particular and undeviating course in its changes from place to place." (p. 11.) In this the author sees a striking analogy to cholera. The suddenness of the attack, and the altered condition of the blood, are also regarded by him as yielding a strong analogy to the effects of lightning. Admitting analogy of some kind, little ground exists in what is here advanced for deciding upon the *electrical* origin of cholera.

In the treatment of cholera Dr. Fife employs calomel, bloodletting, and stimulants. He regards this disease as contingently infectious, but he denies its capability of communication by contact. This pamphlet is concluded with judicious remarks on preventive measures.

8. The object of Mr. Hanham's pamphlet is to show that cholera, and other endemic, epidemic, and contagious diseases, derive their origin either from improper or insufficient food, or from a want of cleanliness and ventilation, acting separately or collectively, and not in any occult or inexplicable condition, change, or influence apart, as many are wont to believe.

That these conditions are among the most favourable for the propagation of the disease, all the world admits; but they certainly do not suffice alone to account for their origin, or we should never be without such maladies.

9. Mr. Grove has met with very great success attendant on the administration of a mixture of sulphur and carbonate of soda; ether and opium being given at the same time. The author looks upon cholera as the result of a specific poison, analogous in many of its features to other specific fevers, as small-pox, scarlatina, &c.; and he believes that sulphur is the specific remedy by which the poison is to be with certainty eliminated from the blood. The author's plan of treatment is open to the inquiry how far the potent remedies (to wit, opium and ether) with which the use of sulphur is combined, may contribute a share to its alleged curative powers.

10. Mr. Joscelin Cooke commits the slight error of reasoning on premises which he requires to be received without the slightest attempt at proof; it will not, therefore, be matter of surprise that his conclusions should consist of the barest assumptions. The lecturer assumes a change from the positive to a negative electrical condition of the atmosphere, and thence deduces the cause and treatment of cholera. It is certainly a much easier proceeding to cut than to untie a knot.

11. In a pamphlet, the first edition of which we have already noticed (p. 159), Dr. M'Cormac dwells on the importance of attention to the earliest symptoms; and on the influence of bad or insufficient diet, in predisposing to the disease. We think the author somewhat too particular in his prohibition of articles of diet. A great change from ordinary habits, unless the latter be indubitably bad, is more likely to predispose to, than protect from, disease. We also think that in the hands of non-professional persons the administration of teaspoonful doses of laudanum every half hour, or even every two hours, must be attended with some danger. With this exception, we regard the directions given as calculated to be of great service in the absence of medical advice.

12. Dr. Batchelder, of New York, premises that cholera consists in "contraction of the capillaries, with relaxation of the pores." The predisposing causes mentioned by the author are such as our readers are familiar with. The author reviews the symptoms, which he finds to accord with and confirm his views on the pathology of cholera, as consisting in contraction of the capillaries which circulate the colourless fluid constituents of the blood." Thence are drawn the indications of cure. The means advised to this end are not new.

13. M. Feraud commences by drawing the attention of his readers to the duty of governments to take every step for the prevention of the cholera, and of other diseases also. He next reviews the theories which have been advanced by several continental authors relative to the seat of the disease. Electrical and meteorological theories the author rejects, as wanting in accuracy, and the alleged conditions as not accordant with the uniform operation of those agencies. In like manner he dismisses the fungoid, animalcular, and gaseous theories. The theory advanced by M.Feraud is that of chemical fermentation in the blood,following on, and determined by, the introduction of poison into this fluid. M. Feraud cites in support of his opinion the immunity experienced by workers in tobacco, tanners, soap-makers, sulphur workers, &c. Upon this alleged immunity we, however, conceive that further observations are required. The poison, whatever may be its molecular nature, is supposed to be conveyed by the air, and to be destroyed by fumigants. The author proposes a new mode of analyzing the atmosphere; which consists in the adaptation of an air-pump to a series of vessels arranged after the fashion of a Wolf's apparatus, by which means the air may be made to pass through fluids of various kinds, and which fluids can then be submitted to chemical or microscopical examination. The author concludes with a series of propositions, in which he sums up his views of the organic nature of the *materies morbi*, which, undergoing decomposition in contact with living organisms, produces epidemic disease. The pamphlet contains much that is instructive, and much more that is ingeniously speculative.

14. Dr. Dvorjak having observed in 1831 that great numbers of persons applied for medical relief when the disease was already far developed, addresses himself in the pamphlet before us to the object of impressing upon his readers the importance of attending to the disease in its curable stages. At the same time the author offers remarks on the causes and treatment. In these we do not discover more then has been said a thousand times already; we shall not, therefore, occupy our space by quotations.

15. The very recent date of the supposed demonstration of the *cholera-fungoid* theory, and the at present unsettled state of the question whether the microscopic organic bodies be of animal or vegetable nature, and still more, whether they be cause or effect of cholera, or dependent on accidental circumstances, suggest to us that, with reference to Dr. Budd's pamphlet, we should simply announce to our readers its publication, and indicate its special objects.

Mr. Brittan has recently published in our pages an account of the discovery of certain organic bodies which he considers to be peculiar to choleraic discharges, and of the existence of these same bodies also in the *air* of infected districts.

Dr. Budd's researches have shown that similar bodies may also be dis-

covered in the *water* of infected districts. The deductions at which Dr. Budd has arrived are—

"1st. That the cause of malignant cholera is a living organism of distinct species.

"2d. That this organism, in shapes hereafter to be described, is taken by the act of swallowing into the intestinal canal, and there becomes infinitely multiplied by the self-propagation which is characteristic of living beings."

"3d. That the new organisms are developed only in the human intestines.

"5th. That these organisms are disseminated throughout society (1) in the air, in the form of impalpable particles; (2) in contact with articles of food; and (3) principally in the drinking water of infected places."

The fourth deduction is similar to the first.

The fungoid origin of cholera the author considers as accordant "with what has long been known of the effect of human agency in propagating the disease,—of the migratory character of the disease,—of its continued extension in all directions from the place in which it originated, with a rapidity, not uniform, and never greater than that of human intercourse." The author here refers to several other facts which show the spread of this disease by human agency: and so far the fungoid theory seems to confirm what facts have repeatedly shown,—that the disease is contagious or communicable under some conditions: on this ground the theory will have to encounter opposition from the non-contagionist advocates of the Board of Works. These organisms once out of the body rapidly decompose, whether in water or any other medium, and for one that reaches its destination ten thousand decay. Thus their fatal agency is limited. From the same property Dr. Budd derives his means of prevention. To this end the discharges from cholera patients should be received into some chemical fluid known to be fatal to sporules of the fungus tribe.

Such are the chief features of the cholera-fungoid theory, and such also are the views of Dr. Budd in reference to the cause and prevention of cholera. It remains to be seen from more extended researches whether these organisms be specifically choleraic, whether they be animal or vegetable structures, and in what relation they stand to the symptoms which are known to constitute cholera. The last point is doubtless in reference to this subject of paramount importance. From the number of able investigators whose attention is now directed to these points, we doubt not their solution will ere long be arrived at.

16. Although a large number of members of our profession have been found willing to compromise their professional dignity by the publication of popular treatises, and letters to daily journals, on the treatment of cholera, we are not thereby ourselves convinced of the advisability or utility of addressing general readers on exclusively professional topics. The practice, however, has thus become in a measure established by custom, although to our own apprehension a custom "more honoured in the breach than in the observance." Among the "observances" thereof the production of Dr. G. G. Bird, of Swansea, may certainly be allowed the first rank. It presents to the general reader a very clear and extended account of the cholera, with a large amount of miscellaneous medical and scientific information, conveyed in the copious notes which are to be found at the foot of almost every page. This work, indeed, deserves a higher position than that of an *ad captandum* popular treatise, and may be studied with great advantage by junior members of the profession, or by those whose circumstances debar their access to the recent literature of the disease. They will here find a comprehensive epitome of the state of professional knowledge in reference to cholera and epidemics generally.

17. Sir James Murray's book comprises the first part of the author's researches on the electro-galvanic phenomena of disease. The chief features of these we shall place before our readers by a few quotations.

"Series of trials were instituted to ascertain,—and generally, in the end, to show,—that following up the atomic doctrine to a *pathological* application of its laws, there appeared some atomic relative changes in the natural proportions of electric equivalents, among the atoms of vitiated or altered

animal fluids, or secretions, under certain diseased conditions."

"The intensity of electric currents, or circles of magnetic action, also varied in the solids as well as the fluids, and the ratio of its intensity or its defect was generally in proportion to the progress and character of disordered action in muscular, nervous, mucous, serous, glandular, or other tissues."

"It was also noticed that animals whose natural electricity was diminished or exhausted, were amenable to epidemics exactly in the ratio of such exhaustion or diminution of their proper atomical electricity."

"So fully was this proposition borne out by experiment and observation, that *nervous energy* and *electric power* seemed to be *identical*,—or, at least, that they appeared to stand in the relation of *cause* and *effect*."

"Every medicine, or rather every particular preparation of medicine, seemed to have (if any influence were observable) a *particular galvanic action* on some *function*, *section*, or *organ*. Remedies of *positive properties* exercised a very different power from others of a negative range." (p. 8-10.)

These quotations present the substance of the author's views. The remainder of his work contains the same propositions worked out in deduction, which certainly display extensive acquaintance with chemical and electrical science. But we much fear that the author sees these things through his own spectacles, under an aspect in which they will not be perceived by the eyes of others, not equally galvanized. For ourselves we must protest that we cannot trace in the assemblage of facts here collected, other than coincident phenomena. All chemical action is attended with the manifestation of certain electrical changes, but chemists do not therefore regard electricity as the sole cause of chemical action. In like manner, the processes of health and disease, because attended with certain chemical actions, cannot be assigned to electricity or galvanism as their efficient cause.

But to the absence of all *positive* proof in support of the hypotheses propounded by the author, we may add *negative* evidence from his own pages, in the form of admissions of ignorance, sufficient to undermine the fragile basis on which he has erected a theory which is to explain all things hitherto inexplicable.

"The pathological consequences of electrical alterations are not yet sufficiently ascertained to admit of mathematical demonstration." (p. 50.)

"I have much reason to believe, although not yet able to prove the fact, that positive electricity bears a relation to *active ailments*, and negative electricity to *passive complaints*." (p. 61.)

"There is probably no epidemic in existence without a corresponding rise or fall of telluric or atmospheric electricity in the affected district." (p. 81.)

Such is the character of the evidence throughout on which Sir James Murray conceives that he has solved all difficulties connected with the rise, progress, and cure of epidemic disease. We cannot accept so conspicuously loose an hypothesis. In fact, so far as these have heretofore been propounded, no hypothesis by which the disease in question has been sought to be explained has been so singularly deficient in strict inductive reasoning as that which refers the origin of cholera to electrical changes.

It will be seen that these various publications, whatever may be their individual merits, present collectively but little novelty, and throw little, if any additional light, either on the pathology or therapeutics of cholera. Before, however, dismissing them, we propose to consider how far they tend to help us to a solution of the disputed question of *contagion*, as one mode of propagation of this disease.

Several among their authors entirely deny the contagiousness of cholera. Here, however, we remark, as has been pointedly said on another subject—"To deny is easy; nothing is sooner learnt or more generally practised: as matters go, we need no man of polish to teach it; but rather, if possible, a hundred men of wisdom to show us its limits, and teach us its reverse."

Dr. Wilson, in the pamphlet above noticed, cites instances of the spread of cholera, which, we consider, contrary to his opinion, favour the view of contagion. Dr. Bird directly points out instances of its communication in this way. Mr. Stephens mentions cases which are inexplicable except by admitting contagion, as does also Dr. M'Cormac. Mr. Grove is clearly of opinion that he has seen the disease conveyed through the intercourse of individuals from an infected to a healthy district, and similar opinions

are expressed by others whose works we have formerly noticed.

We shall here mention one among many instances in proof of the correctness of these views.

A sailor died of cholera at Glasgow: his clothes were transmitted to his mother, residing in the north of Irelend, in a district where cholera had not appeared. The poor woman received and washed the clothes, had cholera forthwith, and died.

We have this fact from the physician who attended the poor woman.

We may also refer to the statements contained in the reports of the Board of Health. The Board lays down the position, that this disease conforms to the habits of typhus. Typhus is, without dispute, admitted to become a contagious disease, under those very circumstances in which we assert that cholera is contagious; indeed, when cases of direct communication of cholera from individual to individual have been met with by non-contagionists, they have at once assumed its combination with typhus, as the condition necessary to its mode of propagation. The Board subsequently finds itself compelled to adopt the same precautionary measures as are available against the spread of typhus—viz. by the establishment of hospitals and houses of refuge, even to the dispersion and removal of the inhabitants of a town or village, as has been actually practised in several places. This has led to the speedy arrest of the disease, as in the case of the Tooting children.

We are informed that the Board of Works having dispatched its two medical inspectors to Hamburgh, to investigate the disease as there existing, "they were stopped by an outbreak of cholera at Hull, which took place in a crew who had passed through Hamburgh." How, then, did it appear in Hull?

The large number of victims of the disease in the southern metropolitan districts can be explained only by the "contagionists." An examination of the reports of the Registrar-General will bear out this statement. We quote only one instance from a district which was comparatively lightly visited; our readers can refer to the reports for many more, for which we have not space. In the weekly report, August 25th, the Registrar, after recording several cases in the western parts of Islington parish, observes—"The cases of cholera in this district, which stands high, seem to have no bearing on or connection with the drainage or residence of the parties attacked." But the reports distinctly state the successive deaths of different persons in the same houses. The same will be found still more prominently recorded of the now notorious Brand Street, Rutland Place, and adjoining courts in Lower Holloway. Here the Registrar has reported upwards of thirty deaths under these contagion-fostering circumstances. It is situated between ninety and a hundred feet above the high water mark of the Thames, but the physical condition of the inhabitants of this limited district is so degraded, that a focus of contagion was formed, and several deaths occurred in each house. A house of refuge for the separation of the patients was found indispensable. Over the entire remainder of the Holloway district, northward, extending to the residence of the medical inspector-general of the Board, only one other death is registered.

We may also direct our readers' attention, in reference to this point, to many instances recorded in this journal; to the remarks in our leading articles; and to notices of various works on cholera, in all of which we have adduced irrefragable proofs of the contingent contagiousness of cholera. We have not denied its origin from other sources, but we have never neglected an occasion of showing that the doctrine of its absolute non-contagiousness is pernicious in the last degree. Past events have shown that it has diverted public attention from the most important precautionary measures; it has led people to believe that a pestilence which was emanating from their own bodies arose out of ditches and sewers; it has led to the multiplication of cases by the false security it has excited; it has forbidden at the outset of the visitation those salutary measures which its authors have at last been compelled to adopt as the only means of arresting a depopulating scourge. Thus virtually has the *Board of Works* abandoned the position which at the first it so authoritatively laid down, on its own non-medical knowledge, and has in the end prac-

tically reverted to the opinions held by the *Medical Board of Health* in 1831-32.

Surely it matters little by what name the fact be designated. The present Board have discovered what the majority of the profession could, if consulted, have told its members long since, that cholera may, by congregating its subjects, become communicable: to demur to its true name, because that is contagious, is but a verbal quibble, unworthy of its high functions, when so many lives are at stake. With such a quibble, we do not hesitate to say it has sacrificed the lives of thousands as an offering to the spirit of trade.

On the Influenza, or Epidemic Catarrhal Fever of 1847-8. By THOMAS BERILL PEACOCK, M.D. &c., Physician to the Royal Free Hospital, and to the City of London Hospital for Diseases of the Chest. 8vo. pp. 184. London: Churchill. 1848.

THE importance of placing on record careful observations and comprehensive histories of passing epidemics, is at once obvious when we reflect on the dearth of materials which exists for the history of the most ancient and persistent diseases; much more so is this necessary when an epidemic spreading so rapidly and so extensively, and so quickly again disappearing as that of influenza, which recently, and in 1837, visited our land and many other countries. The laws which govern the spread of diseases capable of propagation among vast numbers of individuals can only be ascertained by such records: their faithful and impartial observation alone can clear away the confusion now existing in the employment of terms to express their mode of spreading. The words contagious, infectious, epidemic, endemic, and so forth, would be strictly definitions of truths if their facts were as soberly recorded as they are industriously collected.

The perusal of the accurate and interesting history of the last visitation of influenza, recorded by Dr. Peacock in the volume before us, connected with the present division of opinions on the contagiousness or non-contagiousness of cholera, forces strongly upon our notice at the present time the evils of this confusion.

It is to be regretted that so many of our profession should submit their judgments to the dicta of an unauthorised pseudo-medical Board of Works, and instead of patiently investigating the circumstances attending the appearance of cholera, should follow in the convenient commercial assertion of its absolute non-contagiousness.

The influenza was recorded by Cullen as contagious; close observation has, however, placed it beyond a doubt that, at least in the present day, it generally spreads through atmospheric agencies. Exceptions, however, to this rule have been noticed.

"Cases are related by different writers, of persons affected with influenza visiting parts of the country in which the epidemic was not prevailing, and their arrival being followed by the appearance of the disease in those with whom they came in contact. Facts of this kind, when free from ambiguity, are certainly strong evidences of contagion. They appear to show, indeed, that whatever may be the ordinary mode of diffusion of the disease, it is capable of being occasionally conveyed by contagion. I connot but regard it as worthy of remark, that while four persons, two nurses and two patients, took the disease in the wards of the hospital during the recent epidemic, and had severe attacks, these cases all occurred in two wards in which many influenza patients were under treatment; while in a third ward, into which no case was admitted, both nurses and patients escaped the disease altogether, or had it so slightly as not to require any medical attendance." (p. 113.)

Dr. Peacock prefaces his more detailed account of the disease by a review of the commencement and progress of the disease in the metropolis. The care with which this is drawn up, and its illustrations from the tables of the Registrar-General, with statements of the concurring meteorological conditions, will render it valuable for reference in future epidemics. The circumstances, however, are too fresh in the minds of our readers to need our further reference to it on this occasion.

Dr. Peacock treats of the disease under the following heads:—

"1st. *Simple Catarrhal Fever.*

"2ndly. *Catarrhal Fever, with pulmonary complication.*

"And

"3rdly. *Catarrhal Fever, with predominant disorder of the abdominal organs.*

"Of these, the first and second comprise those to which the term influenza is commonly applied. The third class, I shall further subdivide into—1st, cases of simple enteric fever; 2nd, fever with bilious disorder, and characterized by a tendency to relapse, or assume a remittent form; and, 3rdly, gastro-enteritic and bilious fever, complicated with rheumatism." (p. 17.)

1. The simple catarrhal fever was ushered in by the usual symptoms of slight pyrexia, those of severe coryza succeeded, then the characteristic symptoms of influenza speedily manifested themselves.

"Throughout the course of the disease there was distressing headache, particularly in the forehead, across one or both eyebrows, and in the balls of the eyes, increasing ordinarily in severity towards evening, and often undergoing considerable intermission during the day. With these symptoms there was commonly much mental depression, listlessness, inability for intellectual exertion, and nocturnal restlessness. In some cases, epistaxis occurred and produced alleviation of the symptoms. The tongue was usually moist, and covered with a whitish creamy fur, but occasionally it was morbidly red at the tip and edges, and thickly coated towards the centre and root with a fur of the colour popularly termed whity-brown: more rarely, it was dry. In the greater number of cases, entire loss of appetite, with some little nausea and a confined state of the bowels, was experienced at the commencement; but occasionally diarrhœa was observed at an early period, and not unfrequently it came on during the progress of the disease. A sense of weight, tenderness, or pain, in the right hypochondrium were frequent symptoms, and were generally combined with some degree of icteroid tinging of the conjunctivæ or of the general complexion.

"Prostration of strength was throughout one of the most marked and distressing features of the complaint, accompanied as it was with a general feeling of soreness and lassitude, and with dull aching pains in the chest, back, and limbs. The pulse was but little increased in frequency, generally ranging from eighty to ninety, and rarely exceeding a hundred beats in the minute. Though occasionally full, it was uniformly very compressible, and, after the first day or two, feeble. The skin was seldom very hot or dry, or, if so at the commencement of the disease, it soon became cool and moist, and generally the complaint subsided with free perspiration. A sense of chilliness, alternating with transient flushes of heat, was a very constant symptom in every stage of the disease. At first, the urine was usually somewhat scanty and high coloured, but after a day or two it flowed more copiously, and deposited more or less sediment.

"The ordinary duration of indisposition in this form of influenza may therefore be stated at from three to five days in the milder cases, and at from seven to ten in those of a more severe description. The disease, however, on its subsidence, usually left the patient for some time much reduced, and suffering from general debility, inaptitude for exertion either of body or mind, with loss of appetite, or entire distaste for food, and a troublesome cough; and in this state there was a great tendency to relapse.

"Among the children at Christ's Hospital, the disease was much milder than in the cases just described, and probably assumed the form which characterised it in most instances. The attack usually commenced with a sense of cold, sometimes amounting to actual shivering, followed by heat of skin and the ordinary symptoms of fever. In several cases, the disease was ushered in by nausea and vomiting, and in one or two by diarrhœa and gastrodynia. At an early period, there was usually a hoarse, barking cough, with intense frontal headache, much prostration of strength, a hot dry skin, and quick pulse. About the third day, the disease began to subside, and generally passed off with perspiration. The most frequent complications were affections of the throat and larynx. The laryngeal affection usually assumed the form of a croupy cough, and in three cases was developed into decided croup." (p. 20-22.)

This last occurrence we ourselves frequently met with in private practice.

We have extracted thus largely from the author's remarks because they contain the essential features of this epidemic disease. Superadded symptoms justify the classification of cases adopted by the author.

2. Cases of catarrhal fever complicated with pulmonary inflammations: these were—

"Acute or subacute capillary bronchitis; bronchitis supervening on tuberculous disease of the lungs; bronchitis complicated by disease of the heart or aorta; and pneumonia." (p. 24.)

The symptoms of these several complications did not, in our experience, vary much from those by which they are ordinarily characterised, except by their severity. Dr. Peacock's description of these, as met with in the cases before us, together with the post-mortem examination in fatal cases, must certainly prevent at any future time

any difficulty in their recognition, and will repay his readers their study.

3. Epidemic catarrhal fever with abdominal complication.

"These may be divided into—1st, Cases characterised by disorder of the gastro-enteric mucous membrane; 2nd, Those in which the enteric affection was combined with various degrees of hepatic derangement, and a tendency to relapse or to assume a remittent character; and 3rdly, Those complicated with rheumatic symptoms." (p. 58.)

As these latter forms were less frequently met with, except in hospital practice, we give a few descriptive extracts from Dr. Peacock:—

"1. *Catarrhal Fever with disorder of the gastro-enteric mucous membrane.*

"Patients affected with this form of disease, in a mild degree, usually stated, on their admission, that they had been more or less indisposed for periods varying from three to four, to ten or fifteen days. The symptoms, in these cases, were throughout of a slight character, or if at first more urgent, generally subsided into a mild form at the end of a few days. The pulse was seldom materially accelerated, unless at the commencement of the attack. The skin was not generally very hot or dry, and soon showed a tendency to become moist. The tongue usually continued moist, and was covered with a creamy mucus, or whitish fur, and was red towards the extremity. There was generally some slight cough and difficulty of breathing. The bowels were usually torpid, but occasionally, and especially when the disease was about to subside, there was slight diarrhœa, which sometimes also appeared at an early period. There was often troublesome vomiting. With these were combined the ordinary febrile symptoms, prostration of strength, pain in the head, back, and loins, loss of appetite, restlessness, &c. This form of disease was ordinarily of short duration, the convalescence being established from four to seven days from the commencement of the attack; so that of fifteen cases under treatment in the hospital, the mean period of detention was between seven and eight days. (p. 58-9.)

This class of cases was, however, sometimes much more severe.

Among the complications irregularly met with were, pleuritis, peri- and endo-carditis, erysipelas, parotitis, cutaneous eruptions, &c.

The relative mortality from the disease was altogether small: a vast number of cases speedily recovered; and among the poor the worst only could be admitted into hospitals. The fatal cases were for the most part those in which the influenza became engrafted on previously existing chronic diseases.

The treatment necessarily varied with the type of the symptoms and the nature of the complications. Depletion was generally attended with extreme depression, and was admissible only locally. In most cases diffusible stimulants, with expectorants, were the most suitable remedies. The rheumatic symptoms called for, and were mitigated by, the addition of colchicum, in our own practice, combined with opiates. This outline of treatment embraces the means employed by Dr. Peacock.

In considering the nature and causes of this epidemic, Dr. Peacock briefly reviews the histories of several visitations, its febrile character, and the evidence of its non-contagiousness. We fully concur in the following sentence, which speaks the experience of the profession at large:—

"The precise nature of the cause or causes of the epidemic of influenza, we must, therefore, for the present, regard as involved in the obscurity that veils the origin of epidemics generally. There can, however, be no doubt that the more common predisponents to disease, such as defective drainage, want of cleanliness, overcrowding, impure air, deficient clothing, innutritious or too scanty food, &c., powerfully conduce to the prevalence and fatality of the affection. (p. 111.)

We foresee that this work will deservedly hold a high rank in medical historical literature. It should find a place in every public or private medical library.

Proceedings of Societies.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Oct. 13, 1849.

Mr. Hird, President.

On the Pathology and Mode of Communication of Cholera.

Dr. Snow said that he had been led, contrary to the usual opinion, to consider cholera as being, in the first instance at least, a local affection of the mucous membrane of the alimentary canal, and not an

affection of the whole system, depending on a poison in the blood. In diseases caused by a special poison absorbed into the blood, general illness of a febrile character preceded any local symptoms which might arise; but this was not the case in cholera. The loss of the watery part of the blood, in all the cases he had seen, was sufficient to account for the collapse and all the general symptoms; and when cholera commenced gradually, it could often be checked, and prevented from proceeding beyond the stage of diarrhœa, by remedies adapted to act merely on the mucous membrane. The recent discovery of peculiar microscopic cells, believed to be of a vegetable character, in great abundance, in the cholera discharges, tends to confirm this view of the nature of cholera. An attentive examination of the history of cholera, as an epidemic, showed that it was communicable by human intercourse; and although there were many facts opposed to the theory of cholera being contagious, in the same way that the eruptive fevers were believed to be—yet, in the sequel, these facts would afford the strongest evidence of the communication of the disease. If the alimentary canal were the seat of cholera, and the disease were communicable, it was clear that it must be conveyed by something which passed from the mucous membrane of the intestines of one patient to that of another, which it could only do by being swallowed; and as the disease grows in a community by what it feeds upon, attacking a few people in a town first, and then becoming more prevalent, the cholera poison must multiply itself by a kind of growth, like every other morbid poison. The instances in which minute quantities of the ejections and dejections of cholera patients must be swallowed were sufficiently numerous to account for the spread of the disease; and it spread most where the facilities for this mode of communication were greatest. The bed-linen nearly always became wetted by the cholera evacuations, which were almost without colour and odour; and the hands of persons waiting on the patient became soiled without their noticing it; consequently, unless they were very cleanly in their habits, and had an opportunity of washing their hands, they would be liable to swallow some of the excretion, and leave portions on the food they handled or prepared, which had to be eaten by the rest of the family, who, amongst the working classes, had to eat their meals generally in the sick room; hence the thousands of instances in which, in this class of the population, a case of cholera in one member of the family was followed by other cases; whilst medical men and others who merely visited the patient, without taking food, generally escaped. The mining population of this country had suffered more from cholera than any other; there were no privies in the mines, and as the workmen usually stayed down for eight hours at a time, they took food with them, which they ate with unwashed hands; hence, in the event of one workman getting the cholera, the others were very liable to contract the disease, and take it to their families. One important medium of the conveyance of the cholera poison from one patient to another was the drinking water, when it became contaminated by their evacuations, either by permeating the ground and getting into wells, or by their being conveyed by sewers into a river. Since he (Dr. Snow) first published his views on this point, Dr. William Budd had found the microscopic bodies before alluded to in such drinking-water of cholera districts as received the contents of sewers. Dr. Snow then related a number of instances where, as in Albion Terrace, Wandsworth Road, there was a very high mortality from cholera in connection with the contamination of the water with discharges of the patients. He attributed the high mortality on the south side of the Thames to three causes—viz., the drinking from certain tidal ditches, which prevails to so great an extent in Rotherhithe and Bermondsey; the water supplied by the waterworks in this part of London, which is generally procured from the Thames in the midst of sewers; and to the contamination of a number of the wells by the contents of the cesspools, which are often as deep as the wells. The low elevation of the ground had no connection with cholera, except when combined with infected water. Westminster had the same elevation as the Borough, and yet the mortality from cholera was not half so great. Bethlem Hospital and the Queen's Prison had all but escaped cholera, situated in a low level, but having pure water of their own. The Brixton district was chiefly on elevated ground, and yet the mortality there had been high, as a great part of the district was supplied with water got out of the Thames near the Hungerford Suspension Bridge, by the Lambeth Waterworks. In Exeter, in 1832, the greater part of the people were supplied with water, into which, as he had learnt from Dr. Shapter, one of the chief sewers emptied itself. This sewer brought the sewage from the street in which two of the first cases of cholera introduced from Plymouth occurred; the disease was in a few days scattered through the town, and was very fatal. Since that time Exeter had been copiously supplied with water quite free from the sewage of the town, and this year there have been very few cases of cholera, and those chiefly of strangers just arrived from places in which it was prevailing. Hull had also got a new and more

plentiful supply of water since 1832, at which time it was scantily supplied with water conveyed from some springs. The new supply was from the river Hull, which receives half the sewage of the town, and which is washed up by the tide past the water works, as he had learnt from Dr. Horner. In 1832, cholera in Hull was confined to the poor, of whom it carried off 300; this year it had assailed all classes, and about six times that number had died, although eight or ten thousand people had left the town to escape the disease. Certain towns, as Birmingham, Bath, Cheltenham, and Leicester, had almost escaped cholera, both in 1832 and the present year. These towns were supplied with water quite uncontaminated by the sewers. He gave some recommendations for the prevention of cholera; the chief of which were—extreme cleanliness in those waiting on the sick, and avoidance of tainted water, or at least having it well boiled before it was used. Dr. Brittan had found microscopic bodies in the atmosphere, which he considered to be the same as those existing in the alimentary canal. He (Dr. Snow) understood that others had not succeeded in finding them in the air, and he was of opinion, that if they should be generally found in the atmosphere, even of infected districts, they could not be the real cause of cholera, for all the evidence he had collected was opposed to the idea that the cause of cholera existed in the air.

Mr. Swayne, Dr. O. Ward, and others, took part in the discussion which followed the reading this paper. Mr. Swayne stated that during the investigation which he had undertaken with Mr. Brittan, they had examined specimens of the evacuations from sixty patients, and had failed to detect the cholera fungi in five or six cases.

Correspondence.

UTERINE HÆMORRHAGE AT A LATE PERIOD AFTER DELIVERY.

Sir,—Should the following case of post-mortem hæmorrhage appear to you of sufficient interest to be entitled to publicity, your insertion of it in the Gazette will oblige

Yours respectfully,

John Campbell, F.R.C.S.E.
Medical Officer Lisburn Union Workhouse and Fever Hospital.

Mrs. A., of a nervous temperament, and about 35 years of age, was attended by me in her first labour, which presented nothing remarkable, having been completed in ten hours from the commencement of her pains by the birth of a healthy child, and expulsion of the placenta and membranes about twenty minutes after: no hæmorrhage followed; a binder was applied, and the patient left cheerful and comfortable; the child in the mean time having been applied to the breast (a practice strongly recommended by Dr. Rigby, and in which I have great confidence): during her recovery nothing remarkable occurred, except that from the first minute after delivery the lochial discharge presented none of its usual characters, being quite pale and watery,—so much so as to be marked by her attendants. Fourteen days from the date of her delivery, while sitting up and nursing her child, she was seized with flooding, which she at first rather disregarded, but which increasing induced her to go to bed and send for me. On my arrival she was apparently dying: face pale, respiration and pulse scarcely discoverable; occasionally she moved her lips. I found that an enormous quantity of blood had passed per vaginam: judging from the bulk of the clots, and the quantity of linen saturated, I should think not less than three pounds. At once I administered some opium and acetate of lead in solution, followed immediately by some hot whiskey, warm applications being applied to the body, and cool air freely admitted into the apartment. I applied pressure over the region of the uterus, by which several large clots of blood were expelled, so as to cause the patient, who till now was insensible, or rather unable to speak, to exclaim, "her inside was falling out or coming away." Under the employment of opium and whiskey in considerable quantity reaction took place; and after a week or ten days' extreme debility this woman recovered.

In this case two circumstances have occurred different from what I have before observed: 1st. the absence of every thing in the lochial discharge, even from the first minute after delivery, having the slightest sanguineous appearance; 2d. the supervention of hæmorrhage so formidable fourteen days after delivery, the patient in the mean time having apparently perfectly recovered. Could it be that any portion of the placenta or membranes had morbidly adhered to the uterus over some of its sinuses (both having appeared to come away entire), and that sloughing had taken place as in secondary hæmorrhage after amputation? Be this as it may, the facts should warn us of the insecurity in which our obstetric patients may be, long after their recovery may seem to all as complete.

Lisburn, Oct. 1849.

ON PREVENTIVE MEASURES IN CHOLERA.

Sir,—I should not have troubled you again on the subject of Asiatic Cholera, if it

had not been from an invitation in your leading article of the 21st of last month, in which you give the Queries issued by the Royal College of Physicians. If you will refer to my letter of Nov. 2 of last year, in the MEDICAL GAZETTE, vol. xlii. p. 812, you will find a recommendation of a certain mode of grappling with cholera: that principle has latterly been most efficaciously carried out in London by the Board of Health, by the house-to-house visitation; and most clearly has it proved the only true and certain method of combating with Asiatic cholera and arresting its progress.

It must now be universally acknowledged that those most subject to be carried off by spasmodic cholera are in poverty, consequently *thin-blooded*, from the want of nutritious food, — obliged to live in small, crowded, unventilated dwellings, and in the most unhealthy and pestilential parts of towns. If such people could be better fed, and have their dwellings better drained and ventilated, this foul scourge would not descend upon them so direfully.

With respect to ventilation, it is in the power of every householder, at a slight expense, to command security for himself and family; but he cannot command good and perfect draining, which must be a work of much time and great expense. As long as sinks and rat-holes communicate with bad drains, so long will poisonous gases find ingress into dwellings: thus ventilation, only, proves the safety-valve.

It behoves the Board of Health to take time by the forelock, and to prepare for another campaign against cholera next year. It would be respectful in the Board of Health to address a circular to all the medical men in the kingdom, to request them to caution all their respective connections to apply for medical aid immediately any premonitory symptoms appeared. I am sure such an appeal would be well received and attended to. Through the instrumentality of the medical profession, the Board of Health might render immense benefit to the country in influencing the wealthy to form cholera funds in aid of their poorer neighbours. I am convinced that thousands of lives have been lost from their own ignorance of the danger of the easy choleraic bowel complaint. If the house-to-house visitation had been instituted last year, thousands of lives might have been saved.

The question has often been asked, why many die of cholera without any apparent bowel-complaint. I remember attending a case of this kind in 1833, which I thought rather singular. My patient having been brought up to regular habits, and not having had any griping, possessed complete power over the sphincter ani: an explanation was soon afforded by a tremendous gush of serous evacuation from the bowels,— proving that the intestinal canal had acted as a reservoir until nearly the termination of life.

I have long considered the Asiatic cholera essentially a malady incidental to thin-blooded people, passing from the Hindoo to the poor of all nations: hence the only cure can be in the prevention.—I am, sir,

Your obedient servant,

GEORGE MERRYWEATHER, M.D.

Whitby, Oct. 15, 1849.

THE UREDO AND THE MICROSCOPICAL APPEARANCES IN CHOLERAIC DISCHARGES.

SIR,—In your report of the purport of the communication I made last Wednesday to the Microscopical Society, on the subject of the so-termed cholera "fungi," there are one or two points which I would request your permission to correct.

The species of "*uredo*" described as present in a preparation of choleraic evacuation furnished by Mr. Swayne, is not, as your report would imply, the same *species* as that which I found in considerable abundance in some common brown bread. That it is of the same *genus*, however, there can be no doubt. The species in the cholera discharge is at least three times the size of the other, and is oval instead of round.

In the second place, I should wish it to be observed that on the occasion referred to I expressly refrained from the consideration of the smaller class of "annular bodies." The observations were confined to those of more than 1-1000th of an inch in diameter. My reason for so doing was, that I had not, in any case examined by me, happened to notice these bodies, or at least what I supposed to represent them. The "annular bodies" described by me as being probably the remains of branny and farinaceous particles, were of the larger kind, figured by Dr. Brittan and Dr. Budd, and in one figured I think by Mr. Swayne, in the *Lancet*. I mean the larger, irregular, usually more or less broken corpuscles, with thick unequal walls, and of a very undefined and undefinable aspect. It is these bodies which I believe to be what I have stated, or something of an analogous kind. With respect to the smaller "annular bodies," or those considerably under 1-1000th of an inch in diameter, I would beg to state that since the publication of what I said on Wednesday, my attention has been particularly directed to them, as exhibited in a preparation of cholera evacuation procured, I believe, from Birmingham, and kindly communicated by Dr. J. W. Griffith. The examination of these bodies has satisfied me that they are in all probability altered blood discs. They are constituted of flattened discs, or rather are, as

it may be said, rings, the area of which is filled up with a thin expansion containing granules or minute spherules. Under a magnifying power of 600 linears, the ring presents distinct transverse lines, and under a higher magnifying power—as of 1200—it is very clearly seen to be divided into numerous, almost moniliform segments. The corpuscles have the same average size as the blood disc. Any fragments of their rings, when properly viewed, will be seen to exhibit the same structure as the perfect rings; and, therefore, whatever the nature of these bodies may be, their identity cannot in future be a matter of doubt or difficulty.

Dividing, therefore, the corpuscles hitherto described and figured as occurring in cholera discharges, into three groups, I am disposed to assert that—

1st. The larger, coarser, ill-defined, annular bodies or masses, are altered branny or farinaceous particles, or of that nature; meaning by "bran," the inner layer of that substance.

2d. The more defined, uniform, and ovoid corpuscles, figured by Mr. Swayne, and regarded, I believe, by him as typical forms of the cholera fungus, are the sporules of a species of "uredo."

3d. That the smaller discoid, annular bodies, averaging about 1-3000th of an inch in diameter, are altered blood discs.

The question with respect to the nature of the bodies under discussion, of course does not involve that of the "fungous theory" of cholera in general; but with reference to this I would remark, that whatever its applicability to the mode of propagation or spread of the disease may be, the theory seems to me quite inadequate to explain its symptoms and course. To allude to merely one point: is it compatible with anything we know about the growth and development of fungi, to suppose that organisms of that kind should be propagated in such enormous quantity as to destroy life in an hour or less, without the generation of any gaseous product?

Your obedient servant,

GEO. BUSK.

Greenwich, Oct. 22, 1849.

*** Mr. Swayne has since written to us on this subject; but the letter was received too late for the present number. It shall have a place in our columns next week.

ON THE ACTION OF THE ILEO-CÆCAL VALVE.

SIR,—I am desirous of recalling to your attention the article by Mr. Roper, "on the action of the ileo-cæcal valve in stercoraceous vomiting," which appeared in your last number. The explanation which he gives is substantially the same with one which has been maintained by me for some years, and which, some months ago, you did me the honour of publishing in your journal.

The fact of distension above the strictured bowel being a frequent coincident of fæcal vomiting, has probably been long known. That it was an invariable one, Haguenot* first established.

The causal relation of the fact to the symptom was, I believe, first explained by myself, in an essay which appeared in your last and present volumes. To it I beg to refer those who may take any interest in the general question.

I am not sure that this general fact had ever been applied to the precise circumstances of the occluded large intestine and the ileo-cæcal valve, though I have an impression that such is the case. But at page 60 of your number for July 13, 1849, your readers will find the following passage from my essay, which both explains the open condition of the valve, in the same manner as Mr. Roper, and adduces a very familiar but exact parallel: "And we are no longer at any loss to comprehend how an occlusion of the large intestine returns its contents into the small intestine, and causes fæcal vomiting; since the preliminary dilatation would produce a patulous state of the ileo-cæcal valve in all respects identical with that seen in the inflated and dried preparation of this part."—MEDICAL GAZETTE, July 13, page 60.

The article of Mr. Roper would appear to imply that stercoraceous vomiting is limited to occlusion of the large intestine. But that the vomiting in obstructions of the small intestine has a fæcal character, is, however, a fact so notorious, that I cannot help thinking the limitation is a casual oversight on the part of that gentleman.

In conclusion, I feel sure Mr. Roper will do me the justice of believing that I have not the slightest intention of impugning the originality of his observations, far less his good faith.—I am, sir,

Your obedient servant,

WILLIAM BRINTON, M.D.
Demonstrator of Anatomy in King's College.

22, Bloomsbury Street, Oct. 15.

THE CHLORIDE OF ZINC AS A DEODORIZER.

SIR,—In a recent number of your valuable journal you requested information as to the value of Sir William Burnett's chloride of zinc as a deodorizer. I happen to know on good authority that it has been used to a great extent at the Royal College of Surgeons, and that as a deodorizer it is found utterly useless. I have also made trial of it in a variety of ways, and am of the same

* Haller's Disputationes Anatomicæ, vol. i, p. 485, et sequitur.

opinion: indeed, I am at a loss to understand how so many distinguished members of the profession have certified to its value as a disinfectant.

I am glad to find that in again alluding to the subject you have not allowed the advertising letter of Mr. Jackson, the manager of the warehouse for the sale of the fluid, to warp your superior judgment. As a preservative of animal substances, cord, canvas, &c. it appears to deserve all that is said in its favour.—I am, sir,

Your obedient servant,
NEMO.

*** The writer has forwarded his name.

Medical Intelligence.

CIRCULAR OF THE CHOLERA COMMITTEE.

THE subjoined circular has been recently addressed by the Cholera Committee to the Members of the Royal College of Physicians:—

Royal College of Physicians,
Pall Mall East, Oct. 13, 1849.

Sir,—We are instructed by the Cholera Committee to transmit to you the accompanying copies of the Letter issued on the 6th Sept., and to request that you will distribute them amongst those members of the profession in your neighbourhood, not members of the College, who have had the largest experience in the epidemic now subsiding. Any aid which those gentlemen may afford the Committee, in furtherance of the objects indicated, would be received as an obligation.

The Committee are also desirous of obtaining your co-operation in a special inquiry respecting the origin and mode of propagation of cholera. They believe that much might be done towards the elucidation of this important question, by collecting authentic information in regard to the first cases of the disease in the several towns, villages, and public institutions throughout England. They have accordingly directed us to submit to you the subjoined queries, and to beg the favour of your obtaining for them as detailed and precise answers as may be possible:—

1. Had the person first attacked with cholera in ————————, recently been in an infected place? or had he received into his house clothes or other articles which may have conveyed infection? or had he been in contact with strangers coming from an infected locality?

2. If the disease appears not to have been introduced in any one of these ways, is it possible that the drinking-water was the means of conveying the infection, by its being contaminated in its previous passage (as a river or canal (through infected places?

3. What was the character of the part of ———————— in which the first case occurred, as regards elevation, drainage, supply of water, density of population, ventilation, and cleanliness?

4. Did the first few cases occur simultaneously? or after what intervals did they succeed each other?

5. Is there any evidence or probability of there having been communication, or near approach, between the first patient, or patients, and those next affected?

The following queries have reference to the communicability of the disease; but do not relate especially to the first cases:—

6. In the instances where several cases have occurred in the same house, have they been simultaneous or successive?

7. Have any persons attending on cholera patients, or employed to wash the clothes or bed-linen of such patients, been soon afterwards attacked with the disease?

8. Where several persons in one house, or in contiguous houses, have been attacked, in a district otherwise free from the disease, has it been discovered that the water used for drinking had been contaminated by a sewer, drain, or cesspool? or have any other causes appeared which would explain the particular limitation of the disease?

9. Can you learn that the disease has apparently been conveyed to neighbouring healthy places, by infected persons leaving ————————?

In conclusion, we have to ask of you the favour of an early reply to the present, as well as the previous, Letter of the Committee. It is desirable that all communications should be sent in by the 15th November, or as soon afterwards as possible.

We have the honour to be, sir,
Your obedient humble servants,
WILLIAM BALY,
WILLIAM W. GULL,
Secretaries to the Cholera Committee.

MEDICAL APPOINTMENT.

ON the 17th instant, Dr. D. Lewis, of Finsbury Place, was unanimously elected one of the physicians to the Royal General Dispensary, Aldersgate Street.

APPOINTMENT OF SURGEON IN ORDINARY TO H.R.H. PRINCE ALBERT.

HIS Royal Highness the Prince Albert has been pleased to appoint William Fergusson, Esq. F.R.S. Professor of Surgery in King's College, London, to be Surgeon in Ordinary to his Royal Highness, in the room of Charles A. Key, Esq. deceased.

OBITUARY.

ON Tuesday, the 16th inst., aged 25, Ray Charles Golding, M.D., eldest surviving son of Dr. Golding.

On the 17th inst., at 3, Storey's Gate, St. James's Park, John Wright, M.D., aged 44.

On the 20th inst., at Park-terrace, Park-road, Clapham, Edwin Tipple, Esq., aged 65, late of Mitcham, Surrey, surgeon.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 18th October, 1849 :—David Morgan, Llandilo, Carmarthenshire —Josiah Pritchard, Milbourne, Wilts—Hay Sharpley, South Lincolnshire.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Lectures on Electricity and Galvanism in their Physiological and Therapeutical Relations, revised and extended. By Golding Bird, A.M. M.D. F.R.S. &c.

Report of the Tower Hamlets' Sanitary Association.

Holden's Manual of Dissection. Part 2.

Comptes Rendus. Nos. 12 and 13, 17th and 24th September; and Nos. 14 and 15, 1st and 8th October.

Physiognomy of Diseases. By George Corfe, M.D.

Plan for Cholera Case-taking. By F. S. Haden.

*** A reprint of this excellent plan for reporting Cholera Cases appeared in our last number, page 687. The plan before us is contained in a neat pocket morocco case, so that notes may be rapidly made by the practitioner on the spot, and with the main points to be noticed before him. We recommend this pocket-book to all who are desirous of keeping an accurate and uniform register of their observations on Cholera.

Code of Ethics of the American Medical Association, reprinted from the American edition.

La Presse Médicale. No. 43.

Medical Ethics; or, a Code of Institutes and Precepts adapted to the Professional Conduct of Physicians and Surgeons. By the late Thomas Percival, M.D. 3d edition.

Journal de Chimie Médicale. No. 10, October 1849.

Henke's Zeitschrift für die Staatsarzneikunde. 3rd V.H. and Ergänzungsheft.

Annales d'Hygiène Publique et de Médecine Légale. Octobre 1849.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 36 to 39, 8th to 29th September.

Ueber die Unzulässigkeit der Spinal-irritation, &c. Von Dr. A. Mayer.

The British American Journal of Medical and Physical Science. October 1849.

Illustrations and Enquiries relating to Mesmerism. Part 1. By the Rev. S. R. Maitland, D.D. F.R.S. &c.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Oct. 20.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	715	Males....	524	Males....	583
Females..	648	Females..	504	Females..	579
	1363		1028		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	1028	1162
Specified Causes	1027	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	277	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	34	49
3. Brain, Spinal Marrow, Nerves, and Senses	126	125
4. Heart and Bloodvessels	27	40
5. Lungs and organs of Respiration	145	214
6. Stomach, Liver, &c.	67	65
7. Diseases of the Kidneys, &c.	13	11
8. Childbirth, Diseases of Uterus, &c.	6	10
9. Rheumatism, Diseases of Bones, Joints, &c.	5	8
10. Skin	3	1
11. Old Age	4	57
12. Sudden Deaths	10	12
13. Violence, Privation, Cold, &c.	40	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	6	Convulsions	38
Measles	14	Bronchitis	42
Scarlatina	41	Pneumonia	80
Hooping-cough	26	Phthisis	110
Diarrhœa	51	Lungs	8
Cholera	41	Teething	14
Typhus	63	Stomach	5
Dropsy	12	Liver	11
Hydrocephalus	29		
Apoplexy	26	Childbirth	3
Paralysis	18	Uterus	1

REMARKS.—The total number of deaths was 134 *below* the weekly autumnal average. The deaths from Cholera have fallen to 41, a number considerably below those registered for typhus fever.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·89

,, ,, ,, Thermometer[a] ..... 52·4

Self-registering do.[b] ....Max. 87° Min. 31°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·24 — Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 3°.5 above the mean temperature of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

The papers of Dr. Ormerod, Dr. Snow, and Dr. Cogswell, will be inserted in the following number.

Communications have been received from Dr. Nankivil and Mr. W. F. Barlow. These will have early insertion.

Mr. T. J. Herapath.—A proof shall be sent.

An Anxious Student, St. Bartholomew's.

...Lectures.

CLINICAL LECTURE ON EMPHYSEMA.

By John Adams, Esq.
Surgeon to the London Hospital.
(*Reported by* Mr. Hewett.)

Gentlemen,—It is not my intention to occupy much of your time by any prefatory remarks on the importance of the subject of clinical instruction, as I so recently directed your attention to it: I wish principally to impress upon you the idea that Clinical Lectures are not intended to supersede your other lectures, but are rather meant to show you the application of those principles, in surgery, which you are taught elsewhere to practise. And not only will you find your Surgical Lectures illustrated here by cases of frequent occurrence, but you will also perceive that many observations made in the anatomical course will be capable of abundant illustration in the wards of this hospital. I conceive that this view of Clinical Lectures adds materially to their interest.

When I first undertook to give Clinical Lectures on Surgery, I made especial allusion to the necessity of your recording your cases; and as the remarks on this subject were so recently delivered, and as the lecture is in print in the Medical Gazette, I need say but little more with a view to impress this point forcibly on your minds. The large field of experience open to you in this hospital can only be fully and satisfactorily cultivated by your constant endeavour to place on record not only the most important, but also the most simple and ordinary cases. By this means you obtain a vast amount of information, which will stand you in good stead when you come to practise your profession in after-life; you will often be able to clear up doubts, and to remove perplexities, by comparing cases under your management with others the main features of which are implanted in your recollection by a record in your case-book. It is now twenty-seven years since I first entered this hospital; and although I have a record of a great many cases which during that time have come under notice, yet I most deeply regret that I had not taken more pains in keeping an accurate account of the accidents and diseases I have witnessed. Let me, therefore, once more request you to note down the particulars, however trifling, of cases you meet with in going round the wards.

I shall now proceed to read the case on which I intend to comment, and which is well drawn up by Mr. Hewett. It is one of comparative simplicity, of not unfrequent occurrence, and of considerable interest.

Case of Fractured Ribs, with Emphysema.

John Miles, a strong, stout old man, aged 70, bricklayer, was admitted the evening of October the 6th, under the care of Mr. Adams: he stated that whilst mounting a ladder he fell down among some bricks lying on the ground. On admission he complained of great difficulty of breathing, and severe lancinating pain on the left side.

On examination, the integuments covering the thorax were very much distended and puffed up: a feeling of crackling, which you could displace, was felt under the hand; there was crepitation about the region of the fourth, fifth, and sixth ribs: he had no spitting of blood; the pulse was rather hard and quick.

A flannel bandage was gently applied round the chest, from which he experienced great relief: he was ordered twenty grains of Calomel and Rhubarb, and an ounce of Antimonial Saline Mixture (one-sixth grain ad ℥j.), every four hours; two grains of Calomel every four hours: to have milk diet.

7th.—Breathing rather quick; feels pain on taking a deep inspiration; tongue furred at the back part; pulse rather full, about 96. Emphysema slightly increased over the chest.—Continue Mixture and Calomel.

8th.—The respiration not so hurried; less pain on inspiration; pulse more compressible, about 90; tongue not more furred than yesterday. Emphysema not increased.—Continue the Mixture; take two grains of Calomel night and morning.

9th.—Less difficulty of breathing, but troubled with a slight cough; pulse compressible, about 80; countenance cheerful; tongue moist at the edges; the bowels rather costive. Emphysema slightly decreased.—Take twenty grains of Calomel and Rhubarb directly, and continue Mixture.

10th.—Breathing not so hurried; cough a little troublesome at intervals; complains of no pain on inspiration; tongue clean and moist; pulse 76, soft; slight diminution of emphysematous swelling.—Continue Mixture and Calomel.

11th.—Continues the same.

12th.—Symptoms of ptyalism; discontinue the Calomel: in other respects he is improving.

14th.—Much better; pulse 76, regular; breathing natural; decrease of emphysema.—To discontinue all medicines: ordered a pint of strong broth and light pudding.

17th.—Continues to improve; the emphysema nearly disappeared; pulse 70, soft;

ongue and skin moist; cough better: wishes for meat.—Ordered middle diet.

You will understand that emphysema is a blowing up of the body by air escaping into the cellular substance: the term is derived from the Greek word ἐμφῦσάω, to blow up, or inflate. This inflation of the cellular membrane usually results from a wound of the lung by a broken rib, or by any instrument penetrating the chest: but it may also depend on an injury to the trachea or larynx, as in the attempt made to commit suicide. In the case before us it evidently arose from a fracture of the rib; and this leads me in the first place to make a remark on the subject of fracture of the ribs. You are aware that the ribs, which are long elastic bones, form a large share of the walls of the chest, and that they are in constant movement in inspiration and expiration; further, that they are lined internally by the pleura costalis; also that the lungs, which are covered by a delicate reflection of the same membrane, are in as close contact with the ribs as they can be, there being only, besides their investing membrane, a delicate halitus or vapour between them to facilitate the gliding movements so requisite for free respiration. Now a rib may be broken in one of two directions; that is, it may be spurred out or it may be pushed in, just as, if you were forcibly to bend a hoop, you may break it inwards, or you may force it outwards. The mode of fracture is obviously a matter of considerable importance, for if the rib is broken inwards, in consequence of the close proximity of the lung this organ is liable to be wounded. If the lung is wounded, you will probably, although not necessarily, have an escape of air from its air cells, producing emphysema: this, together with hæmoptysis, constitutes the most important indication of wound of the lung, although a lung may be wounded, and yet both these symptoms may be absent. Let me now explain to you the mode in which emphysema takes place. If the question is asked, how is emphysema produced? the answer usually offered is, that it arises from the escape of air into the cellular membrane of the body during *inspiration;* but this is not exactly correct: the following is the mechanism of its production. During inspiration, air is drawn through the wound in the lung, and filling the pleural cavity, thus compresses the lung, and, when expiration occurs, as the air cannot pass back again through the wound into the lung, it is forced by necessity through the wound the fractured rib has made in the pleura into the cellular membrane of the parietes of the chest, and thus making its way, gradually distends the cellular tissue of the whole body, with some few exceptions, as the palms of the hands and soles of the feet, which, from the condensed nature of their tissue, are impermeable to the air. The accumulation of air is occasionally so great as to obliterate the natural outline of the body, and mask completely the features of the individual.

With reference to the treatment of emphysema, I have a few observations to make. The patient is, of course, to be placed in bed, and a flannel bandage should be applied, not with a view of preventing a further escape of air,—for the air in the cellular membrane is under ordinary circumstances innocuous,—but rather as a splint to restrain the movements of the ribs, and keep the chest as quiet as possible: for this purpose a flannel bandage is the best, as it is most elastic. After a few hours you give the patient a brisk purge to unload the bowels, so as to permit the ready descent of the diaphragm, as the respiration is to be carried on as much as possible by this muscle. A grain of calomel may be given night and morning, and a saline antimonial draught every six hours:—all this with a view of preventing inflammation. As to bleeding, my own experience leads me to believe that it is not usually necessary in emphysema, although, if the pain in respiration is great, and the pulse indicates it, blood should be taken away; in old persons, at any rate, I would avoid bleeding if possible: in the case before us it was unnecessary, and was not resorted to.

This comprises the general treatment; but the local treatment is not unimportant. Of this I have spoken, as far as the bandaging is concerned: the question is, what is to be done with the extravasated air? Let it alone: it will generally be absorbed, —that is, it will probably resolve itself into its natural elements, and, mingling with the fluids in the vessels, disappear entirely. In some cases, however, it accumulates to such an extent as to become a source of considerable inconvenience, by producing pressure on the large veins of the neck, and thus threatening suffocation. Of this I have witnessed two instances in this hospital, and in both cases the urgency of impending suffocation was so great that I was compelled to introduce the point of a lancet, and the rush of air was so great as to extinguish the flame of a candle. This is, however, by no means common; and in the generality of cases, if one lung be alone implicated, absorption takes place, and the patients recover. If, however, the inconvenience alluded to arises, the skin must be punctured to give exit to the air. Of course, the air in the pleural cavity becoming absorbed, the lung expands gradually.

The view which I have taken as to the production of emphysema does not apply universally; for if there be adhesion of the lung to the chest, emphysema may be pro-

duced during inspiration, there being an obliteration of the space between the pleura-costalis and pleura-pulmonalis; in other respects I know of no difference between the two instances.

Original Communications.

OBSERVATIONS ON THE CLINICAL HISTORY AND PATHOLOGY OF ONE FORM OF FATTY DEGENERATION OF THE HEART.

By Edward Latham Ormerod, M.B.

Caius College Cambridge; Licentiate of the Royal College of Physicians; Late Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital.

Part I.

Of fatty degeneration in general—primary and secondary. Fatty disease of the heart—writers on the subject—of three kinds—illustration of the second kind. The third kind the subject of this paper—its anatomical characters. Fatty degeneration a specific form of disease—its clinical history.

Fatty degeneration of the heart as a cause of sudden death—the compatibility of extensive disease with apparent health—manner of death—death by coagulation of the blood in the pulmonary artery; difference of the symptoms of, illustrated. Old coagula in the heart, connected with capillary phlebitis, only coincident with fatty degeneration of the heart. Death from valvular or fatty disease of the heart; points of resemblance between.

There are few subjects which have engaged the attention of pathologists of late years so much as fatty degeneration. It is a field in which the microscope has done good service in the hands of Mr. Gulliver, Mr. Bowman, Mr. Rainey, and Dr. Johnson, with many others. Mr. Paget has expressed so well the general principles of the process, in his Lectures on Atrophy (Med. Gaz., 1847, Lecture V. and VI.), as to render any lengthened exposition of them here quite superfluous. It will be sufficient merely to note the chief outlines, referring for further details to those elegant and instructive lectures to which the author of this paper must express his great obligations.

Fatty degeneration may occur under two conditions—viz. as a primary or a secondary affection. Primarily, it may occur in a part which is no longer wanted, as in the muscles of aged or crippled limbs, and in the structure of crippled organs. Such a change we see best in the bodies of some old people. The parts which are no longer wanted are not simply atrophied, but converted gradually into fat, and the blood apparently is so overloaded with this ingredient that it fails to remove the fat from those parts which are in earlier years naturally padded or distended with this substance.* So the body retains, in many respects, the form and plumpness of youth, but the texture is flabby, and the colour pale, for the want of blood and muscle to give it the hue and firmness of youthful life.

The other condition frequently connected with this peculiar form of atrophy, which may then be called secondary, is the previous occurrence of chronic inflammation in this part. Here, as in the former case, we must look to the general habit of the individual for some share of the explanation; but the fact of the one being occasionally ingrafted on the effects, or accompanying the progress of the other, rests on the best evidence. This is most commonly seen, as might be expected, in internal organs. Probably the same cause which has induced inflammation, has itself, in a very large majority of cases, given the tendency to fatty degeneration of the particular organs.

Of the nature of this fatty degeneration, under whatever circumstances, there can be no doubt: it is essentially an atrophy, whereby the most highly organized elements of the body are replaced by one of the simplest. It is not that the substances are changed into fat, that is plainly impossible, but that the nutritive processes of muscle, or gland, or bone, no longer restore particle for particle whatever is lost by the daily use of the parts, but replace it with oil. Nutrition goes on in some sort, but the additions are of matters wholly unsuited to the office of those that they have replaced: they can neither move nor secrete, nor even mechanically support the weight of the body.

It is not proposed in the following pages to discuss the entire subject of fatty disease of the heart in general; for there is little to be added to what we already know of many parts of it. The records of medicine abound with instances of apparent conversion of more or less of the substance of the heart into adipose tissue; instances more striking in themselves, and better recorded, than any which the author could adduce.

The clinical history, too, of this class of cases, appears to be perfect; we know where to expect such degeneration, and in what way to dread its consequences; and if we have ceased to look for more exactly pathognomonic signs of its existence, it is because

* See Mr. R. W. Smith's two cases. Dublin Quarterly Journal, Vol. ix. p. 413.

we know that it is not in the nature of the disease that there should be such.

The subject of the following remarks is, therefore, one form only of fatty degeneration, which, after some pains in the inquiry, I am content to believe is, if not exactly, as Rokitansky says, a form as yet unnoticed, at least a form which he was the first correctly to describe.

In the writings of Morgagni there are accounts of several fat hearts, but as the large size and abundant deposit of fat are the points particularly dwelt upon, these cases obviously will not do for the present purpose; for an excess of adipose tissue is far from being a common accompaniment of the particular form under consideration. The case detailed in Epist. xlv. §. 23, is the only one which I have met with, in looking through his great work, which seems with any high probability thus explicable. But the case is too long for insertion on the grounds only of probability.

It is not under the head of fatty degeneration of the heart that we are to expect to find illustrations of the present subject. Fat there is, but not of a nature to be detected by the unassisted eye. Much more might be expected from the examination of recorded cases of softening or discolouration of the heart. These were conditions familiar to Laennec, and well described by him. But the microscope was not then in daily use, as at present, and, without the microscope, this form of disease could scarcely have been separated from that form which has below been described as the second, and for whose accurate description we are indebted to Laennec. As a general expression, nothing could be more correct than Laennec's remarks (Auscultation Médiate, Tome iii. p. 223), where, after combating the notion that softening of the heart was necessarily an inflammatory condition, and to be treated by antiphlogistic means, he says—"To me softening of the heart appears an affection *sui generis*, the result of a disturbance of nutrition, through which the solid constituents of a tissue are diminished in proportion as the fluid or half-fluid constituents are increased." But he failed to perceive the whole connection between softening and fatty degeneration of the heart; for he says further on (op. cit. p. 226)—"There is in this case no evident perversion of nutrition, because there is no accidental [*i. e.* adventitious] product," which is contrary to the actual state of things under consideration.

The great French pathologists are not exactly agreed with Laennec; but their differences of opinion are not material to the present subject. Dr. Hope (On Diseases of the Heart, p. 332, third edition) follows Laennec's classification of white, yellow, and red softening, without connecting these conditions—or rather the second of them—with fatty degeneration. Dr. Joy (Lib. Pract. Med. Vol. iii. p. 365) expresses very plainly the possible connection between fatty degeneration and general softening of the heart, and speaks of them as probably explanatory of many a sudden death by syncope. Dr. Copland (Dict. Pract. Med. Vol. ii. p. 227) has given a very full bibliography of this subject; and a clear, concise statement of all which was at that period known of it will be found at page 216 of the same work. Little could be added to his description of what there will be occasion to speak of as the second form of fatty disease of the heart. But, upon a careful examination of several of the authorities referred to, there do not appear to be any cases certainly referable to the third form, the immediate subject of this paper. One case only by Mr. Adams (Dublin Hospital Reports, Vol. vi. p. 396) appears to belong here; for, besides the fat which had displaced the muscular tissue on the outside of the heart, "in both ventricles, even in the lining fibres, yellow spots, where fat had occupied the place of muscular structure, were to be observed. The muscular structure was soft and easily torn, and a section of it exhibited more the appearance of liver than of a heart" (Op. cit. pp. 398-9). But the clear, accurate manner in which this and other of the cases are detailed, almost forbids one to put any other interpretation upon them than what their authors have expressed.

In the absence, therefore, of any other cases which may with perfect certainty be quoted as the basis of an analysis, it appeared the best way to detail at length such as my own experience affords, rather than to adduce merely the inferences from them; though the security against error, or the means of correcting it, is purchased at the expense of great prolixity. I have only to observe on this subject, that my opinion as to the nature and importance of the disease rests on the facts placed before the reader, and that it is not to impress the importance of the change in every case, that every case has been adduced. Rather, seeing under what great variety of circumstances it may be found, I should hope that the same observations would lead him to the same conclusions as myself on the points hereafter to be investigated.

There are three forms in which fatty disease of the heart may occur:—

1st. In the first form the fat is accumulated in those parts where it is naturally deposited in the greatest abundance, as at the base of the heart. This is met with in those persons who have a general tendency to accumulate fat; and to this form, probably, most of what are called fat hearts belong.

It is certainly a condition of disease, but probably not an important one, and needs no additional illustration here.

2d. In the next form the fat collects chiefly about the apex of the heart (Laennec, Auscult. Médiate, Tome iii. p. 225). The deposit begins from without, and is not attended with so great an enlargement of the heart as in the form first described; for the fat is deposited at the expense of the muscular tissue—in its place, not merely laid upon it. Moreover, the degeneration is partial, and in patches, not general. This tendency to limit itself to particular spots is seen most characteristically in those cases where a single carnea columna is converted into adipose tissue, but still preserves the form of the muscular band whose place it has usurped. This form occurs in persons who have, as is popularly said, an unhealthy disposition to grow fat; in those where the fat has generally throughout the body, as in the heart, a tendency to accumulate in the place of, not in addition to, the proper structures. The disease is, in some sense, a degeneration in this form, but not perhaps so strictly as in the form remaining to be described, the proper subject of these remarks. To this second form belong nearly all the cases, as far as I am able to judge, described as examples of fatty disease of the heart. This fact in itself bespeaks the much greater importance of the second than of the first form; for there the change in the heart is commonly described as a morbid appearance among many others; here it is the change on which the interest of the case is made to turn.

Dr. Cheyne, and other Dublin practitioners, among whom the disease has excited a good deal of interest, have recorded cases of this description. But instead of repeating one of their well-known cases, the following, for which I am indebted to my friend Dr. Kirkes, will serve as an excellent illustration :—

Sudden death—fatty degeneration of the heart.

A German clock-maker, a powerful, well-built man, applied for admission at St. Bartholomew's Hospital, in August, 1847, and he looked so pale and ill that the only empty bed in the house was given him, though a fever patient had to be refused admission.

His friends said that he had always had remarkably good health, and that he was a man of great strength and powers of endurance. But within the last year he had been subject to occasional fits, during which he lost consciousness, fell, and struggled for a short while. He had one such fit ten days ago. His face was now pale; his expression languid; his gait tottering; pulse thrilling, occasionally irregular. He said he had no uneasiness in the chest, only he had wandering pains, with a sense of fainting and debility.

He was put to bed, and lay quiet and unnoticed that evening and night. Early on the following morning the nurse found him quite dead in his bed.

On examination of the body thirty-six hours after death,

The limbs were still rather rigid. A large quantity of fluid blood escaped from the divided cerebral vessels; the brain itself was healthy. Nothing particular was observed in the lungs, or in the abdominal viscera.

The heart was rather larger than natural: it was marked with two "white patches" externally; it felt like a loose bag, its walls being quite flaccid, and it was already partly decomposed, its walls interiorly being stained by the dark grumous blood which it contained. The right side of the heart was of the natural size, though the auricle was just then distended with blood. The left cavities were smaller than natural. On close examination, the heart appeared as if entirely overlaid with a layer of dirty yellowish fat, separated by a distinct boundary from the muscular substance of the organ; but the muscular tissue itself was pale, like dead leaves, contrasting forcibly with the bright red colour of his abdominal muscles.

The rapid decomposition which a portion of the heart set apart for the purpose underwent, vitiates any conclusions from the microscopic examination. A piece of abdominal muscle, from the same subject, had, in the same time, undergone no change.*

For the present, let this brief summary and this single example suffice for this very common yet very terrible form of the disease. Regarding it as the standard and recognised form, as it were, of fatty degeneration of the heart, it will be better to return to it hereafter, when the full exposi-

* I am indebted to my brother for the particulars of the following case, which, however, want of microscopic examination prevents my numbering among the undoubted examples of this affection :—

A gentleman of about 40 years of age had always been fat and indolent. He bore the appearance of indolence to such a degree, that, as he walked along the streets, he used to be made the subject of practical jokes on that account, and to exertion of any kind he seemed to have an innate repugnance.

For the last few years of his life he had been resident in Australia. I am not not aware that he had been previously ill, he certainly had suffered no pains in the region of the heart, when one day he was taken as it were with the symptoms of death, and so died in about a quarter of an hour as he was moving about the room.

Nothing was found on examination of the body to explain these symptoms but the existence of a small fat heart.

tion of the characters of the form more immediately under consideration has supplied the means of comparing the two.

The third form of disease was first, as far as I am aware, described by Rokitansky, who speaks of it as affecting the heart by preference; then, next in order of frequency, the voluntary muscles, and sometimes, though very rarely, the involuntary muscles,—as, for instance, the coats of the gall-bladder.* The subject has been also investigated by Mr. Paget† with his usual ability. To his description of the morbid appearances I have nothing to add, and have only to offer my humble confirmation of the correctness of his remark that the fatty matter is partly within, and not wholly external to, the sarcolemma, as described by Rokitansky. But I cannot omit to acknowledge the extreme pleasure and advantage I have derived from the assistance of Mr. Paget, as well on the occasion of working out this part of the subject, as always on other occasions, whenever the direction of his pathological researches has happily coincided with mine.

To the unassisted eye, the muscular substance of a healthy heart presents characters distinguishing it from ordinary muscular tissue; for it is more compact and homogeneous, and not loosely divided into bundles of fibres, as is ordinary muscle. Under the microscope it also presents some striking differences, the transverse striæ being less distinctly marked, and the fibres having a singular granular appearance. It is very important to notice this normal difference at the outset; for the first step towards fatty degeneration consists in the loss of continuity of the transverse striæ, and in the increase of this granular marking of the fibres, which would seem to be in some degree their normal appearance.

This is the first step, and, as wholly undiscoverable by the naked eye, may often pass unnoticed, unless something in the symptoms, or some change in the general condition of the heart, call particular attention to that organ. Such conditions may be, a small, pale, flabby state of the heart, not inaptly compared to the colour of withered leaves, and to the feel of a moist glove. But such are not commonly the signs which call attention to the existence of this structural change: they are ordinarily much more obvious.

On opening a heart thus affected, the interior of the ventricles appears to be mottled over with buff-coloured spots of a singular zigzag form. The same may be noticed beneath the pericardium also; and in extreme cases the same appearance is found, on section, to pervade the whole thickness of the walls of the ventricles and of the carneæ columnæ. Of these latter the *musculi papillares* seem most liable to be affected. Not to say that this form of disease never occurs in the walls of the auricles,—at least, I have never seen it there.

Microscopic examination reveals the nature of these spots: they are not deposits, but distinctly degenerated muscular fibres; the outline, not merely of the masses, but of each single fibril, is accurately preserved. Instead, however, of transverse striæ and nuclei—the evidences of active vitality—there is little to be seen but a congeries of oil-globules. The whole history of the degeneration may be traced in one of these little spots. First, from the immediate neighbourhood of the spot we may obtain healthy muscular fibre; then the transverse striæ become less distinct; they are rows of dots rather than continuous lines; then the intervals between the dots become wider, and the dots themselves run into longitudinal rather than transverse lines; and then all regularity is lost, and the dots appear to stud the surface all over, like the points on a bit of fish-skin. Probably long before this time the fibre has lost all its properties

Fig. 1.

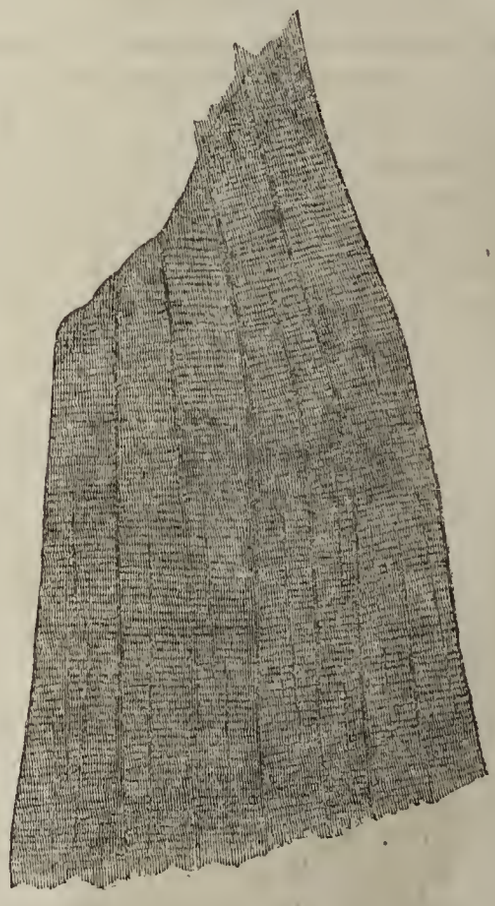


Fig. 1.—Healthy muscular fibres of the heart.

* Rokitansky. Anat. Path. Bd. II. ss. 360, 459, III. s. 368; Budd, Dis. of the Liver, p. 191.

† Lectures on Nutrition, &c., London Med. Gaz. May 1847, Lect. VI.

Fig. 2.

Fig. 2.—Granular degeneration, with commencing fatty degeneration.

as a muscle: but there are further changes to observe; for now, mixed with these minute dots, are to be seen small oil-globules, which increase and coalesce till the fibril presents little else but a congeries of oil-drops contained within the sarcolemma.

Fig. 3.

Fig. 3.—Extreme fatty degeneration; the fibres cleared by acetic acid.

This is not the only change which the fibres undergo; for, with whatever care they are disintegrated, they are found to be short, and as if unusually brittle,—a general condition which may, perhaps, be of more serious importance than the actual fatty degeneration of the organ.

Such are the most common features of the disease, and sufficiently obvious, when once noticed, to prevent their being readily overlooked afterwards. But we must not rely too exclusively upon them; for, as already observed, in the absence of these little spots marking the extreme degree of fatty degeneration in single points, the disease may have pervaded the whole substance of the heart; and the recognition of such a change will be difficult in exact proportion to its extent, and therefore its importance, from the want of healthy tissue wherewith to contrast the diseased fibres. And there is no solution for the difficulty except in the use of the microscope, whose information, should anything casually induce us to solicit it, on this subject at least is infallible.

It is perhaps almost needless to provide against such a misinterpretation as that this should be presumed to be an ordinary change of the heart. The following, however, has been chosen, in this view, as an illustration of what may be called fibrous degeneration of the heart, where, mixed with the atrophied muscular tissue, are the products of previous inflammation.

Angina pectoris—Sudden death—Aneurism of the left ventricle—fibrous degeneration of the heart.

A clergyman, aged 45, of sedentary studious habits, inclined to grow fat, though abstemious to a degree, for the last two years of his life was subject to paroxysms of pain in the region of the heart. The first paroxysm occurred on occasion of some mental anxiety; then he used to suffer them about once a month, and latterly almost daily.

There was no valvular murmur, only the heart's sounds were loud and ringing. He found more relief from constant mental employment, and from the practice of abstinence to a degree which most would call starvation, than from anything else. One morning he was found dead by the side of his bed.

On examination of the body after death, with Dr. Jeaffreson and Mr. R. Eyles, besides a few slight morbid changes irrelevant to the present subject,—

The heart was found large, weighing ℥xij.; there was a slight degree of general vascular injection of the pericardium, which contained about ℥ij. of clear fluid. The right side was healthy. The left valves were efficient, but thickened. The walls of the left auricle were thickened: the left

ventricle was rounded at the apex, which projected far beyond the right. In a space of about an inch in diameter, on the front of this ventricle, the walls were very thin, and could easily be made to bulge. The substance of the heart here was injected, but tough, and chiefly made up of cellular tissue. The carneæ columnæ hereabouts, and those leading to the right side of Lieutaud's valve, were pale and white, being composed in chief part of fibrous tissue, the fibres being long, straight, and parallel, mixed with only a few proper muscular fibrils. Elsewhere the fibres of the heart were long, straight, well coloured, and the transverse striæ well marked. There was no fatty degeneration anywhere.

The aorta was thick and uneven, with a few calcareous plates, and with the lining membrane removed in a few places.

In many respects, then, the anatomical history of fatty degeneration of the heart appears to be complete. We can trace it from its earliest beginnings to the entire disintegration of the muscular structure. It is a specific change with as distinctly marked characters as have any of those diseases of which we have cognizance by the eye or ear—tubercle or pneumonia, for instance. There are some points, however, which observation has yet to supply; for there are ulterior changes in the muscular structure of the heart—perforations, rupture, and apparent loss of substance,—which experience has not yet shown to be strictly the results of fatty degeneration, however probable the general circumstances may have made it that such will be found to be the case on more extended inquiry.*

The clinical history, however, on which these particular subjects trench has not yet been traced. It is in the attempt to elucidate this that the following cases have been detailed. There are two great points to be made out: first, the degree of importance to be attached to the disease; and, second, the causes on which it may be supposed to depend. The latter can only be investigated by an analysis, and it would be prejudging the question to use its presumed results as the basis of any classification. The former being, in our present state of knowledge of the subject at least, to be measured by the influence of the affection for life or death, it has appeared best to adopt this as a means of classification of the cases, which on this matter may well speak for themselves. There are, then, two great divisions, in one of which death has seemed more or less directly referable to this change in the structure of the heart; while in the other this structural change has taken place without the occurrence of any symptom referable thereto. This second larger division appears, for facility of reference, most properly to be again divisible into different sections, according as different organs have been affected coincidently with this structural change of the heart. From the more frequent coincidence of some of these diseases, it is hard to resist the conclusion that the connection is more than that of coincidence. For the digressions which occasionally interrupt the regular course of the narrative, I trust it is needless to offer any lengthened apology. Where not absolutely necessary to guard against any fallacy from misinterpretation of the particular case, the importance of their subject must be the plea for their admission.

Of the first class of cases—those, namely, where death has seemed to result more or less directly from this lesion of the heart,—there are six. The three first have already been published by Mr. Paget in his Lectures, from which two of them are transcribed. The details of the first, which was under my own more immediate observation, are given at greater length, as well on account of their importance as for a fuller illustration of the form of disease under consideration.

[To be continued.]

* On the controverted subject of the connection of rupture of the heart with the commonly known form of fatty degeneration, this would not be the place to speak had I anything to add to what is already known. References to this subject will be found in Bouillaud (des Maladies du Cœur, T. ii. p. 633), and Dr. Stroud's work (On the Physical Cause, &c. *passim*), as well as in all the common sources of information. My own very limited experience is entirely negative as concerns the form at present under examination; for in the only two cases of rupture of the heart which I have had occasion to examine this peculiar form did not occur. But the question waits further investigation in these two particulars,—Can rupture occur in a healthy heart, independent of external violence? and what is the essential nature of the disease which allows of such an occurrence?

THE GRESHAM SINECURE PROFESSORSHIP OF MEDICINE.

It may be as well to inform our readers that the Autumnal Course of Lectures on the Practice of Physic, founded by Sir Thomas Gresham, will be commenced by Professor H. H. Southey, M.D. F.R.S., on Tuesday, November 6th. The lectures are said to be delivered gratis to the public, in the Gresham College, Basinghall Street, at twelve o'clock in Latin, and at one o'clock in English. The course consists of *three* lectures; and it will terminate on Thursday, November 8th. It is not recognised by any of the medical corporations. The money bequeathed by the noble founder for a scientific purpose might, we think, be much better employed by the Mercers' Company than in sustaining a mockery of this kind.

ON THE

PATHOLOGY AND MODE OF COMMUNICATION OF CHOLERA.

By John Snow, M.D.

Reasons for considering cholera a local affection of the alimentary canal—proofs of its communicability—difficulties in the way of the ordinary doctrine of contagion. Cholera poison is contained in the evacuations, and communicates the disease by being swallowed: illustrations of this in the houses of the working classes—in mining districts. Cholera communicated by drinking water: cases illustrating this. Difference of elevation in London influences cholera only through the drinking-water. Communication of cholera through the water in York, Exeter, Hull.

Writers on cholera, however much they may have differed in their views concerning the nature of the disease, have generally considered it to be an affection of the whole body, and consequently due to some cause which acts either on the blood or the nervous system. The following are the reasons which have led me to entertain the opinion that cholera is, in the first instance at least, a local affection of the mucous membrane of the alimentary canal; an opinion which I thought almost peculiar to myself when I was first led to adopt it, but which, as I have since been informed, others were beginning to entertain.

In those diseases in which there is reason to conclude that a morbid poison has entered the blood, there are symptoms of general illness, usually of a febrile character, before any local affection manifests itself; but so far as I have been able to observe or to learn from carefully recorded cases, it is not so in cholera. On the contrary, the disease begins with the affection of the bowels, which often proceeds with so little feeling of general illness, that the patient does not consider himself in danger, or apply for advice till the malady is far advanced. It is true that, in a few cases, there are dizziness and faintness before discharges from the bowels actually take place, but there can be no doubt that these symptoms depend on the exudation from the mucous membrane, which is soon afterwards copiously evacuated. With respect to certain rare cases of cholera without purging, Dr. Watson has remarked in his Lectures, that when the bodies of such patients have been opened, the characteristic fluid was found in the bowels. Another reason for looking on cholera as a local disease is, that the affection of the stomach and bowels is sufficient to explain all the general symptoms. The evacuations, in the cases I have witnessed, have always appeared sufficient to account for the collapse, when the suddenness of the attack is considered, and the circumstance that absorption is probably suspended. The thickened state of the blood arising from the loss of fluid accounts for the symptoms of asphyxia, by the obstruction it must occasion in the pulmonary circulation. The recent analyses of the blood of cholera patients, by Dr. Garrod, afford the strongest confirmation of this view; for he found it to contain a much greater amount of solid materials in proportion to the water, than in health or other diseases. If there has been more purging in some of the less severe cases than in the rapidly fatal ones, it only shows that, in the former, absorption has been still going on, or else that some of the fluids which have been swallowed have passed through the bowels. The drain of fluid into the alimentary canal suspends the urinary secretion, either totally or in great part, and the kidneys become congested from the altered state of the blood: hence any little urine that is secreted is albuminous; and if the kidneys do not soon recover from the congestion, urea accumulates in the blood in those cases in which the patient survives the stage of collapse. Although in a great number of cases the symptoms of cholera manifest themselves suddenly, and are not amenable to any known treatment, yet in other cases the disease commences gradually with diarrhœa, and in this stage there is evidence to show that it can usually be cured by the ordinary remedies for diarrhœa. Now this circumstance is a strong reason for concluding that the mischief in cholera is at first confined to the mucous membrane; for it is not easy to conceive that chalk, and opium, and catechu, could neutralize or suspend the action of a poison in the blood.

Indeed, diseases caused by a morbid poison in the blood, such as the eruptive fevers, cannot be cut short, either by local or general means, but run a definite course.

An important part of the pathology of every disease is the knowledge of its cause. To ascertain the cause of cholera, we must consider it not only in individual cases, but also in its more general character as an epidemic. On examining the history of cholera, one feature immediately strikes the inquirer —viz. the evidence of its communication by human intercourse. In its progress from place to place it has nearly always followed the great channels of human intercourse. In spreading along the highways in India, it often spared the villages that were situated at a little distance from the main road, on either side. When a body of troops were attacked with it on their march, it often remained with them through countries having a very different climate and physical character from that in which they contracted the malady ; and they often communicated it to towns and villages previously free from it. In extending itself to a fresh island or continent, the cholera has always made its appearance first at a sea-port, and not till ships had arrived from some infected place. Crews of ships approaching a country in which the disease was prevailing, have never been attacked until they have had communication with the shore. The cholera, moreover, in progressing from one place to another, has never travelled faster than the means of human transit, and usually much slower. Such are the general considerations which show that cholera is communicated by human intercourse; and there are besides instances so numerous of persons being attacked with the disease within a day or two after immediate proximity to the sick, that it seems impossible to attribute the circumstance to mere coincidence. On the other hand, there are a number of facts which have been thought to oppose this evidence: numerous persons hold intercourse with the sick without becoming affected, and a great number take the disease who have had no apparent connection with other patients. These facts, however, have always been examined with the conviction that cholera, if communicable, must be contagious in the same way that the eruptive fevers are believed to be—viz. by effluvia given off from the patient into the surrounding air, and acting on other persons either directly or through the medium of fomites. But with a fresh pathology of the disease this opposing evidence requires to be reconsidered, and will, in the sequel, be found to afford the strongest confirmation of the communication of the disease.

In the meantime we have arrived at two conclusions—first, that cholera is a local affection of the alimentary canal; and secondly, that it is communicated from one person to another. The induction from these data is that the disease must be caused by something which passes from the mucous membrane of the alimentary canal of one patient to that of the other, which it can only do by being swallowed; and as the disease grows in a community by what it feeds upon, attacking a few people in a town first, and then becoming more prevalent, it is clear that the cholera poison must multiply itself by a kind of growth, changing surrounding materials to its own nature like any other morbid poison; this increase is the case of the *materies morbi* of cholera taking place in the alimentary canal.

The instances in which minute quantities of the ejections and dejections of cholera patients must be swallowed are sufficiently numerous to account for the spread of the disease; and on examination it is found to spread most where the facilities for this mode of communication are greatest. Nothing has been found to favour the extension of cholera more than want of personal cleanliness, whether arising from habit or scarcity of water, although the circumstance hitherto remained unexplained. The bed linen nearly always becomes wetted by the cholera evacuations, and as these are devoid of the usual colour and odour, the hands of persons waiting on the patient become soiled, and unless these persons are scrupulously cleanly in their habits, and wash their hands upon taking food, they must accidentally swallow some of the excretion, and leave some on the food they handle or prepare, which has to be eaten by the rest of the family, who amongst the working classes often have to take their meals in the sick

room: hence the thousands of instances in which, amongst this class of the population, a case of cholera in one member of the family is followed by other cases; whilst medical men and others, who merely visit the patients, generally escape. The post-mortem inspection of the bodies of cholera patients has hardly ever been followed by the disease that I am aware, this being a duty that is necessarily followed by careful washing of the hands; and it is not the habit of medical men to be taking food on such an occasion. On the other hand, the duties performed about the body, such as laying it out, when done by women of the working class, who make the occasion one of eating and drinking, are often followed by an attack of cholera; and persons who merely attend the funeral, and have no connection with the body, frequently contract the disease; in consequence, apparently, of partaking of food which has been prepared or handled by those having duties about the cholera patient, or his linen and bedding.

It has been found that the mining population of this country has suffered more from cholera than any other, and there is a reason for this. There are no priviesin the coal pits,* and I believe that this is true of other mines: as the workmen stay down the pit about eight hours at a time, they take food down with them, which they eat, of course, with unwashed hands, and as soon as one pitman gets the cholera, there must be great liability of others working in the gloomy subterranean passages to get their hands contaminated, and to acquire the malady; and the crowded state in which they often live affords every opportunity for it to spread to other members of their families. There is also another cause which favours the spread of cholera amongst many of the mining populations, to which I shall have to allude shortly, in treating of the water.

With only the means of communication which we have been considering, the cholera would be constrained to confine itself chiefly to poor and crowded dwellings, and would be continually liable to die out accidentally in a place, for want of the opportunity to reach fresh victims; but there is often a way open for it to extend itself more widely, and that is by the mixture of the cholera evacuations with the water used for drinking and culinary purposes, either by permeating the ground and getting into wells, or by running along channels and sewers into the rivers.*

The part of the metropolis most severely visited by cholera in 1832, was the Borough of Southwark, in which 97 persons in each 10,000 of the population were carried off, being nearly three times the proportion of deaths that occurred in the rest of London. Now the population of Southwark at that time (such of them as did not use pump-water), were supplied by the Southwark Water Works with Thames water obtained at London Bridge, and sent direct to their dwellings without the intervention of any reservoir. The Thames has since become more polluted by the gradual abolition of numbers of cesspools in the metropolis, and the Southwark Water Works have been removed to Battersea, a little further from the sewers. I am endeavouring to compile a full account of the recent epidemic in London, in its relation to the water, but as it is not yet complete I must here be content with citing certain instances of severe visitation, or of exemption from its ravages.

There are two courts in Thomas Street, Horsleydown, exactly resembling each other; the small houses which occupy one side of each court being placed back to back, and the privies for both courts being placed in the intervening back areas, and emptied into the same drain which communicated with an open sewer passing the end of both the courts. In Trusscott's Court, as one of them is called, there was but one death from cholera, whilst in the other, named Surrey Buildings, there were eleven deaths. In this latter court the refuse water from the houses got into the well from which the people obtained their water. The succession of the cases illustrates the mode of communication. There were first two cases in Surrey Buildings, the evacuations of these patients being passed into the bed, as I was in-

* Dr. D. B. Reid, in Second Report of Commissioners for inquiring into the state of large towns and populous districts. Appendix, Part ii. p. 122.

* See review in MED. GAZ. present vol. p 466.

formed by Mr. Vinen, of Tooley Street, who attended them; in a few days after, when the water in which the soiled linen had been washed must have become mixed with that in the well, a number of cases commenced nearly together in all parts of the small court. The instance of Albion Terrace, Wandsworth Road, was a still more striking one of the communication of cholera by means of water. As the account of the occurrence was quoted in a review in the MEDICAL GAZETTE,* and some further particulars supplied by me in a note,† I need not now relate the particulars, but will briefly state that, owing to a storm of rain and thunder, such a connection was established between the drains and water, that, on a case of cholera occurring in any one of seventeen houses, the evacuations might enter the water supplied to all the others. Such a case did occur, and in a short time the prevalence of cholera was such as I believe had not before been known in this country; whilst at the same time there was but little of the disease at the time, or I believe since, in the surrounding streets and houses. I will take this occasion to remark that we have now an explanation of the reason why the cholera has on some occasions increased very much immediately after a thunder storm, and on other occasions has very much diminished. The cause of this lies in the rain, and not in the thunder. In some places drains containing cholera discharges would be made to overflow into a brook or river, or other source from which water was obtained, whilst in other places drinking-water already contaminated would be nearly altogether washed away, and replaced by a fresh supply.

Dr. Lloyd mentioned some instances of the effects of impure water at the South London Medical Society, on August 30th.‡ In Silver Street, Rotherhithe, there were eighty cases, and thirty-eight deaths, in the course of a fortnight early in July last, at a time when there was very little cholera in any other part of Rotherhithe. The contents of all the privies in this street ran into a drain which had once had a communication with the Thames; and the people got their supply of water from a well situated very near the end of the drain, with the contents of which the water got contaminated. Dr. Lloyd has informed me that the fœtid water from the drain could be seen dribbling through the side of the well, above the surface of the water. Amongst other sanitary measures recommended by Dr. Lloyd was the filling up of the well; and the cholera ceased in Silver Street as soon as the people gave over using the water. Another instance alluded to by Dr. Lloyd was Charlotte Place, in Rotherhithe, consisting of seven houses, the inhabitants of which, excepting those of one house, obtained their water from a ditch communicating with the Thames, and receiving the contents of the privies of all the seven houses. In these houses there were twenty-five cases of cholera, and fourteen deaths; one of the houses had a pump railed off, to which the inhabitants of the other houses had no access, and there was but one case in that house. The people in Rotherhithe, where the mortality from cholera has been greater than in any other part of the metropolis, are supplied with water to a great extent from certain tidal ditches communicating with the Thames, and receiving besides the refuse of the houses in the neighbourhood; and Dr. Lloyd informs me that a line may be drawn between the places where ditch-water is used, and those supplied from the Water Works, and that the cholera has been many times more prevalent in the first-mentioned places; although, in my opinion, the water supplied from the water works is itself not free from suspicion of having conveyed cholera poison, being obtained from the Thames. Rotherhithe is less densely populated than many parts of the metropolis which have been comparatively free from cholera, and those ditches, it should be remembered, are not very offensive to the smell; being only Thames water rendered a little richer in manure; being, in short, probably equal to what Thames water would be if certain of our sanitary advisers could succeed in having the contents of all the cesspools washed into the river. In Bermondsey, the district in which next to Rotherhithe the cholera has been most fatal, the people also have to drink ditch water to a great extent.

* Present vol. p. 468.
† Ibid, p. 504.
‡ See Report in MED. GAZ. p. 429.

The Registrar-General has very ably pointed out the connection between the higher rate of mortality from cholera on the south side of the Thames, and the lower level of the ground; but when this division of the metropolis is examined in detail, and compared with certain other parts of London, it will be found that the relation is not one simply of level, or of the state of the air in connection with it, but that it depends altogether on the water used by the people. Not because the water carries the poison to every individual case, but because it supplies a number of scattered cases which diffuse the disease more generally. The water works supplying the south of London take water from the Thames mostly at places near which the chief sewers run into it. Moreover, the wells in this part of London are very liable to be contaminated by the contents of cesspools. Mr. Quick, engineer of the Southwark waterworks, in his evidence before the Sanitary Commissioners in 1844, said* that in the south side of the Thames the wells are often so contaminated owing to the cesspools and the wells being often about the same depth—viz. from eight to twelve feet, whilst on the north of the Thames the wells require to be from thirty to seventy, or eighty feet deep. These, together with the water from the ditches mentioned above, are the chief sources of the high mortality on the south of the Thames, and where they are not in operation there has been comparative immunity from the disease. Bethlem Hospital is very copiously supplied with water from an Artesian well on the premises, and I am informed that that there have been but two or three cases of cholera out of a population of about seven hundred. Mr. Morton, Surgeon to the Queen's Prison, informs me that, although there has been a good deal of diarrhœa, there have been but two cases of cholera in that establishment, containing a population, with the officers and attendants, of 300 and upwards, and one of the cases (the only fatal one) occurred in a patient who had been about a week in the prison, had suffered from an attack of cholera just before he entered, and had lost some members of his family by it.

* First Report, p. 396.

Now, the Queen's Prison is supplied with very good water from various wells within the walls. Bethlem Hospital is situated in Lambeth, where one in every eighty-eight of the population have been carried off by cholera; and the Queen's Prison in Southwark, where one in every sixty persons have died of it: and the latter establishment is closely surrounded by houses, in numbers of which the cholera has been very fatal. In another institution in London, situated at the same elevation as those just mentioned, there has been, together with a difference of water, a difference in the relative prevalence and fatality of cholera amongst its inmates and the surrounding population; but here it has been against the institution and in favour of those outside: I allude to the Millbank Prison. The cholera showed itself there soon after its appearance in London last autumn; and during the summer of the present year it became very prevalent, and the greater number of the prisoners were sent away. Dr. Baly stated before the coroner that the cases occurred in different parts of the prison, amongst persons having no connection with each other, and that the strongest and most healthy men were often its victims. The water used in the Millbank Prison is obtained from the Thames at the spot, and is filtered through sand and charcoal, and looks very clear. Before these investigations there could be no objection to such water; but it would appear by the result that the filtration was not an effectual safeguard. I cannot help suggesting that the water used here may have had some connection with the dysentery which has been often prevalent in this prison, for dysentery has apparently been kept up in India by water containing human excrement; and the same circumstance was observed in the old barracks at Cork, by Mr. Bell, surgeon of that town.*

The greater part of Westminster abounds in nuisances, and is crowded with very poor and destitute people. The average elevation of it is exactly the same as that of St. Saviour's and St. Olave's, Southwark, but the mortality from cholera in Westminister to the end of September has been but

* Dr. Cheyne on Dysentery, Dublin Hospital Reports, vol. iii.

69 in the 10,000; whilst in St. Saviour's it has been 162, and in St. Olave's 152 or 179, according as the deaths in St. Thomas's Hospital are left out or included. The greater part of Pimlico and Chelsea have the same elevation as the Borough, but the mortality in them has been less than one-third as great as in the Borough. Westminster, Chelsea, and Pimlico are supplied with Thames water from the Chelsea water-works; but as the same water is supplied to the Court and a great part of the aristocracy, the Company have large settling reservoirs and very expensive filters, by means of which, probably, the greater part of the cholera poison has been got rid of. The registrar's district of Brixton is situated on rising ground, the elevation of which varies from 12 to 140 feet above Trinity high-water mark, giving an average elevation at least equal to that part of London situated on the north of the Thames; and it is inhabited very much by people in comfortable circumstances, occupying wide and open streets, and scattered rows of houses, or even detached villas; yet in looking over the registrar's reports, I find eighty-three deaths from cholera since May last. The population in 1841 was 10,175; this would yield 81 deaths in the 10,000, or twice as many as have occurred on the north of the Thames; but the population of Brixton has probably increased since 1841, by the building of new houses, more than in London generally. Still there can be no doubt that the mortality there from cholera has been much higher than in many of the worst parts to the north of the river; and the reason is not far to seek, for the greater part of the Brixton dristrict is supplied by the Lambeth water-works with water obtained from the Thames near the Hungerford Suspension Bridge.

I will now proceed to narrate some circumstances that have occurred in the provinces. The drainage from the cesspools found its way into the well attached to some houses at Locksbrook, near Bath, and the cholera making its appearance there this present autumn became very fatal. The people complained of the water to the gentleman belonging to the property, who lived at Weston, in Bath, and he sent a surveyor, who reported that nothing was the matter. The tenants still complaining, the owner went himself, and on looking at the water and smelling it, he said that he could perceive nothing the matter with it. He was asked if he would taste it, and he drank a glass of it. This occurred on a Wednesday; he went home, was taken ill with the cholera, and died on the Saturday following, there being no cholera in his own neighbourhood at the time.

When the cholera made its appearance at York, about the middle of July last, it was at first chiefly prevalent in some narrow streets near the river, called the Water Lanes. The inhabitants of this spot had been in the habit from time immemorial of fetching their water from the river at a place near which one of the chief sewers of the town empties itself; and recently a public necessary had been built, the contents of which were washed every morning into the river just above the spot at which they got the water. In a short time from twenty to thirty deaths occurred in this locality; but the medical men considering the impure water injurious, the people were supplied from the water-works, with water obtained from the river at a point some distance above the town, and the cholera soon almost ceased in this part of the city, but continued to spread in some other parts. The cholera having thus abated in the Water Lanes, the gratuitous supply of water was cut off, and the people went to the river as before. There were still cases of cholera in the town, and it soon broke out again in this locality, and in the first few days of September eight deaths occurred among the persons who used water obtained direct from the river. The tap for general use was again opened, and the river water interdicted, and the cholera again ceased, and has not recurred. These circumstances were communicated to me by a friend on whose accuracy I can rely, and an extract from his notes on the subject afterwards appeared in the Yorshireman Newspaper.

The first cases of cholera in Exeter, in 1832, were three in the same day besides one in St. Thomas's, a suburb of Exeter, in a gentleman just arrived from London, where the disease was prevailing. The other three were a woman and her two children; the former, with one of her children, had

returned from Plymouth the previous day, where she had been nursing a child that had died of the cholera. Within five days from this time, there were seven fresh cases in as many different parts of the town, amongst persons having no intercourse with each other or the first cases. The disease soon became very prevalent, and in three months there were 1,135 cases, and 345 deaths. Exeter is situated on ground which rises from the edge of the river to an elevation of 150 feet. In 1832 the inhabitants were chiefly supplied with river water by water-carriers, who conveyed it in carts and pails. Dr. Shapter, from whose work the above particulars are obtained, has kindly furnished me with information concerning the sewers, and maps of their position. The water-carriers, by whom Exeter was very greatly supplied, obtained their water almost exclusively from certain streams of water, diverted from the river in order to turn water-mills; and one of the chief sewers of the town, which receives such sewage as might come from North Street, in which the first cases of cholera occurred, empties itself into the branch from the river which divides into the two mill-streams just mentioned. It must be remarked that the parish of St. Edmund, in which these streams of water were situated, had a lower mortality from cholera than other parts of the town like it densely populated and on low ground near the river. Dr. Shapter attributes this lower rate of mortality, and I believe rightly, to St. Edmund's being freely intersected by running streams of water. The people would probably not drink more of the water than in parts of the town where it was less plentiful, and had to be paid for, but they would have much better opportunities for personal cleanliness: so that whilst they would be exposed to only the same number of scattered cases, they would be less likely to have the malady spreading through families, and by personal intercourse. After the cholera of 1832 measures were taken to afford a better supply of water to Exeter; not, so far as I can find by Dr. Shapter's work, that its impurity was complained of, but because of its scarcity and cost. Water-works were established on the river Exe, two miles above the town, and more than two miles above the influence of the tide. Exeter is now very plentifully supplied with this water, and Dr. Shapter has informed me that this year there have only been about twenty cases of cholera, nearly half of which have occurred in strangers coming into the town, and dying within two or three days after their arrival.

We will now consider the town of Hull, in which, together with other sanitary measures adopted since 1832, there has been a new and more plentiful supply of water, but with a far different result to that at Exeter. In 1832 Hull was scantily supplied with water conveyed in pipes from springs at Anlaby, three miles from the town. About five years ago new water-works were established to afford a more plentiful supply. These works are situated on the river Hull, at Stoneferry, two miles and three quarters from the confluence of that river with the Humber. About half the sewage of the town is delivered into the river of the same name, the rest being discharged into the Humber, as appears from information and a map kindly furnished me by Dr. Horner, of Hull, who has been making great efforts to have better water obtained for the town. The tide flows up the river many miles past the water-works, carrying up with it the filth from the sewers. The supply of water is, to be sure, obtained when the tide is down, but as the banks of the river are clothed with sedges in many parts, and its bottom deep with mud, the water can never be free from sewage. Moreover, there are some parts of the river above Stoneferry much deeper than the rest, and where the deeper water is, according to the testimony of boatmen, nearly stagnant; thus allowing the water carried up by the tide to remain and gradually mix with that afterwards flowing down. There are also boats, with families on board, passing up the river to the extent of 5,000 voyages in the year. The water when taken from the river is allowed to settle in the reservoir for twenty-four hours, and is then said to be filtered before being sent to the town. In 1832 the cholera was confined almost exclusively to the poor, and the deaths amounted to 300.

This year, according to what I have gathered from the weekly reports, they

have been six times as numerous. Dr. Horner informs me that they have occurred amongst all classes of the community; that he thinks one in every thirty-three of the population has been carried off, although 8,000 or 10,000 are said to have left the town to escape the ravages of the pestilence. All this has happened notwithstanding that the town is much better drained now than in 1832, and the drains in Hull proper are flushed frequently with water from the Docks.

[To be continued.]

ON THE

PROPAGATION OF CHOLERA BY CONTAGION.

By Charles Cogswell, M.D. F.L.S.

While the question of the contagiousness of Asiatic Cholera remains undecided (whatever may be the light thrown upon it by the microscopic discovery of Mr. Brittan), I beg permission to recal to mind a remarkable class of facts in the history of the disease, which appear to me to support a logical inference in favour of contagion,* though by no means to the exclusion of other causes which have been set up in rivalry with it. That the disease, in entering an insulated field, has constantly begun its ravages at the seaports, is no new observation; but this peculiarity has not, that I am aware, been so stated as to assume the form of an experimental result, successively consequent on a renewal of the same antecedents, and tending, by its uniformity, to indicate a law. By tracing the progress of cholera from East to West, and only paying attention to the seaports, we detect signs of regularity in the phenomena which are apt to escape us in attempting to follow it through the mazes of an inland population, liable to frequent and often unconscious intercommunication, and variously subject in the statement of facts to the influence of interest, error, and prejudice.

It may be doubted, indeed, whether much of the obscurity that involves the question has not arisen from too great a tendency on the part of practitioners to generalize on the credit of cases which have fallen under their exclusive observation. Sometimes, in these instances, the train of personal communication appears distinct; at other times no continuity can be traced, and opinions are formed accordingly. Hence the argument is reduced to a conflict of authorities, instead of resting on the evidence of facts; for it is clear that circumstances confined to the knowledge of a few cannot be calculated on with the same confidence as those of a conspicuous and public character; so that, however satisfactory to the immediate observer, their influence is limited to himself and those who rely on his judgment. The great historical facts are those of the class above mentioned, which are open to general criticism: and if the evidence that supports them be itself unexceptionable, they are not without sufficient correspondence to show that the malady has at least observed method in its migrations to places insulated by water from those where it previously existed; in other words, has consistently extended itself over this barrier by the medium of naval intercourse.

A very frequent argument used by the opponents of contagion requires consideration. How is it, they ask, that, if the contagion exists, so many escape who are exposed to it? The same might be said with regard to the eruptive fevers. But here recourse has been had to some peculiar morbific state of the atmosphere (which is certainly not *less* hypothetical than the disputed agency), or to those ordinary deteriorating contingencies of humble life, such as foul emanations and defective nutriment, which usually preoccupy the haunts of cholera. With regard to the former cause—namely, an abnormal state of the atmosphere,—it may be asked, in return, why, under an influence so pervading as that of the air breathed by a whole community, the effects are only partial; and, if we take the persistent class of agents, why do they not *constantly* give rise to the disease? It is now being admitted that these latter are inadequate of themselves, but require

* This word is used in its ordinary sense, as including both contagion and infection, strictly so called.

the assistanee of some oecasional ally. Then if we eome to refer the result to a combination of eauses, allowing the depressing cireumstanees to be the predisposing, and some other the exciting eause, the question still reeurs, with at least as mueh force with regard to the atmospherie hypothesis as if we suppose eontagion,—How is it that so few eomparatively suffer of the vast numbers of persons living in the same qualified atmosphere, and equally unfavourably situated? After all, there is no such manifest antagonism among the three alleged eauses as to destroy the possibility of *the whole* of them being essential: on the eontrary, many cireumstanees eontribute to warrant this presumption, and also to add another eonfederate to the list—namely, individual susceptibility.

I shall now proceed to sum up the evidence in question, trusting that the advantage of seeing it in a eonnected form will exeuse the repetition, with those who may have been hitherto disposed to view the parts as but eurious features of a progress marked by no order or certainty, or rather singularly deficient in both.

Bombay.—In 1817 the eholera began those remarkable movements from East to West which have only terminated in America. That it existed before that date in India, and even formerly in England, is no improbable inference, from what has been stated in this journal; but the laws that regulated the diffusion of the previous epidemics are not so elearly determined as to afford any elue in the present inquiry. According to the *Bombay Medical Reports*, the eholera reached Panwell on the 6th of August, 1818. Panwell is a village on the west coast of the peninsula, about seventeen miles from Bombay. The first case oeeurred at the latter island on the third or fourth day after (a strong eontrary monsoon wind blowing at the time), and eould be traced to a man who had arrived from Panwell. It was also introduced into the island of Salsette by a body of troops employed to escort a state prisoner from Panwell.

Ceylon.—In a southerly direction the cholera ravaged the Coromandel Coast, and thenee proceeded to Colombo and Trincomalee, in the island of Ceylon (1818-19). Dr. Chambers objects to importation in this instance, on the ground of the disease first appearing at "Colombo on the west coast of Ceylon, although almost all the intereourse between India and Ceylon is carried on by Trimeomalee, whieh is on the opposite side of the eoast." (Med. Gaz. 1849). This, however, does not materially affect the question.

Mauritius.—An extract from the journal of Mr. James Foy, surgeon of H.M.S. Topaze, in the Med. Gaz. 1832, vol. ix. p. 226, states as follows: —"The ship sailed from Trineomalee on the 9th of Oetober, 1819, having fifty-seven on the sick list.....Immediately after, Cholera Indiea broke out, and attacked seventeen, four of whom fell its victims..... Three weeks after the arrival of the ship at Port Louis, the Cholera Indica made its appearanee among the inhabitants." Here it is objected that one or two cases had oecurred on the island early in September; but, as Mr. J. Kennedy observes, "the disposition to spread, which is the grand characteristie of the Indian malady, was not developed previous to the 18th of November—a date perfeetly reconcileable with the idea of importation."—*History of the Contagious Cholera.*

Island of Bourbon.—This lies forty leagues from the Mauritius. On the 14th of January, 1819, the disease appeared in the town of St. Denis, on the elandestine arrival of a slave-vessel whieh had only quitted the Mauritius on the 7th.—*Dr. Bisset Hawkins. History of the Epidemic Cholera of Russia.*

Arabia.—Considerable trade subsists between Bombay and Muscat, in Arabia. In July 1821, Museat reeeived the eontagion from Bombay.—*Ibid.*

Persia.—At Busheer, which earries on a large commeree with Bombay, a sixth part of the inhabitants died. Shiraz is in constant eommunieation with Busheer. In September 1821, the disease arrived.—*Ibid.*

The cholera ravaged Persia annually up to the year 1830, when it began to stretch westwardly; and finally, extending over Europe, reached Hamburgh.

England.—In this island it first appeared at the port of Sunderland on the 26th of October, 1831. Great anxiety was shown to discourage the idea of its having been imported from

Hamburgh. "However, it remains undisputed (only because it is indisputable) that suspected vessels were suffered to come up through the shipping to the Wear, to perform quarantine, and that at least one such vessel left Hamburgh after the disease was acknowledged to be there. It further appears that in Sunderland the disease first broke out among persons connected with the shipping." — MED. GAZ. 1832, ix. 238.

Ireland.—"We regret to state that cholera has made its appearance in Belfast, adding another to the numberless instances of its first appearance in insular situations being at a seaport." —*Ibid.* p. 949.

Isle of Man.—"In the summer of that year when the cholera made its first appearance in England," Sir George Head states that not a single case was known here, when he happened to be present at an early funeral near Douglas. The deceased had only arrived in Douglas from England a week before. This was the first of many fatal cases of cholera.—*Head's Home Tour*, 1837.

Africa.—"According to Dr. Audouard, who observed the progress of cholera in Algeria in 1835, the disease was introduced by merchandise into the town of Constantine. In 1837, when the disease reappeared, it was at the conquest of that town by the French, who introduced it there through the 12th regiment of the line, lately arrived at Marseilles, where the cholera then raged."—MED. GAZ. 1848.

America: Quebec.—"The disease appeared in Canada in 1832 and 1834; in the former of these years cases of it were first noticed at Quebec among a party of emigrants who landed there on their way to Montreal."

Montreal.—"On the day following, a person belonging to the same party, but who had proceeded by the vessel to Montreal, was attacked shortly after his arrival there, and in a few days the disease became general in both towns." From Canada it proceeded along Lake Champlain into the United States.—*Statistical Reports of the Sickness, &c. among the Troops*, 1839.

Halifax.—"On the 20th of that month (July 1834), a vessel from Quebec, where the cholera was then prevalent, entered the harbour of Halifax. During the voyage, the crew had suffered severely from bowel complaints, and one of them was admitted into the poor-house with symptoms of cholera, of which he died." Another of the inmates died of cholera about a week after, and "by the 10th of August the disease began to make rapid progress through the town."—*Ibid.*

In connection with the now existing epidemic, it has been noticed as one of the most remarkable facts, that in its progress over Europe it has followed very nearly the track of its predecessor. The first cases of the disease in this island were observed at

Hull.—The captain and crew of a Prussian bark, lying in dock, arrived here by a steamer from Hambnrgh (where the cholera had been prevailing for some weeks) on the 29th Sept., 1848. They went on board the same day, and in the night one of the crew was seized with a bowel complaint. This man and two more of the crew were dead by the third day following, and the disease was pronounced by the faculty to be Asiatic cholera. Fresh cases with the like history shortly followed at this port and Sunderland (MED. GAZ. 1848, vol. vii.), about which time, but not before, the disease was decided to be in London and other parts of the kingdom.

Ireland.—"A case of this disease, in the person of an Irish pauper who arrived from Glasgow on Saturday last, was received into the Belfast Union Fever Hospital yesterday morning. It appears that this patient had lived for some months past in a close in the Horse Wynd, Edinburgh. On Wednesday last, a man was seized in the same house with cholera, and died, after twelve hours' illness, the next day. Two others, either in that house or in the Wynd, also died." (MED. GAZ., Dec. 8th, 1848.)

America.—The cholera "has appeared at two remote points—first, at the quarantine station at Staten Island (New York), and next at New Orleans." It first appeared on board the packet ship New York, when near Cape Sable, on the American coast. The ship had left Havre with 345 steerage passengers. There was no sickness for the first sixteen or seventeen days, but on arrival she had eight or ten cholera cases on board, and

several had died. "What is very singular, all the cases occurring among the passengers have been those from Paris, where no cholera existed when they left; while the German passengers, direct from cholera districts, were entirely exempt."

In New Orleans the disease broke out in the early part of December 1848, immediately on the arrival of emigrant vessels from Hamburgh, Havre, and elsewhere. The passengers had suffered from cholera during the voyage. (Amer. Jour. of the Med. Sciences, 1849, xvii.)

Such a train of evidence as the foregoing, always favourable to the inference that the disease was carried to insulated districts by means of a contagious principle attending the parties engaged in intercourse, supplies a strong ground of faith, in opposition to those who deny this mode of propagation, from having witnessed no proof of it in domestic practice. What difficulty has been experienced in tracing its progress when once it has established itself on land, may be gathered from the proposal of a French physician, who actually advised that a colony of volunteers should proceed to some secluded part of the country, and wear the clothes of cholera patients, in order to decide the question. Even assuming, however, the existence of contagion, there seems to be no reason why we should not take into account the *epidemic character of seasons*, of which the influence is manifest in other epidemics, and "observable even in the phenomena of small-pox and measles" (Dr. Gregory), of which the contagious character is undoubted.

Although the necessity of consulting brevity has prevented me from doing full justice to the details given by the authors, still it must be confessed that they are generally liable to some objection; such as failing to go far enough back, or not tracing the disease immediately after its ingress, from the persons supposed to have brought it with them. Nevertheless, the main fact of its entrance by a sea-port is common to all, and the other particulars agree and sustain each other where they are mentioned. One of these occurrences, which took place within my own knowledge many years since, led me to attach much importance to this method of inquiry, and I have regretted that measures were not taken to institute an authoritative and searching investigation on subsequent occasions of a similar nature.

London, October 16, 1849.

TREATMENT OF CHOLERA

BY PREVENTING THE DISCHARGE OF THE SERUM OF THE BLOOD, OR SUPPLYING IT ARTIFICIALLY.

By C. B. Nankivell, M.D.
Torquay, Devon.

When we consider the terrible mortality of the present epidemic, the acknowledged inefficiency of all remedies hitherto employed in its worst and last stage, and the utter hopelessness with which the poor asphyxiated patient is often regarded, we must allow that any treatment in this stage which has been attended with success, or which rationally promises to be so, is worthy of serious attention. It is only this consideration which would have induced me to add another to the many communications already made to the profession on this subject.

My designation of the subject of this letter has been chosen for the purpose of directing the attention of your readers to an indication of treatment, certainly not new, but which seems to me to have been very much neglected in this disease. That I may be clearly understood, I will advert to a few leading and established points in its pathology.

Whatever may be the specific and essential cause of cholera—whether it be a morbid impression on the ganglionic nervous system, a poisoned condition of the blood, or the presence of animalcular or fungous bodies in the alimentary canal, there can be no doubt that the principal phenomena of its attendant collapse are produced by the loss of the serous portion of the blood, and the reduction of that retained within the vessels to a thick and viscid consistence. All who have made autopsic investigations in this disease, or who have examined blood drawn from a patient during collapse, describe this fluid in terms strongly expressive of this character—as "thick, viscid, treacle-like, tarry, pitchy, glutinous." It is manifest that such blood must be incapable of circulation in the pulmonic and general capillary vessels. Indeed, it scarcely moves in the veins, as shown by venesection; hence its

imperfect arterialization and dark colour, the lividity of the patient, and diminution of animal heat. Of course such blood must become more and more undecarbonized, and less and less oxygenized and prepared to impart energy to the nervous and vascular systems; while the further draining away of its thinner portion is increasing the physical impediment to its circulation. Death by asphyxia must obviously be the steady result of the continuance of such a state.

In accordance with this view of the collapsed forms of cholera, and considering the most important therapeutic indication to be that of restraining the serous exudations, whilst means are taken to promote and support the circulation, it was determined by Mr. Toogood and myself, in a severe case of this kind, to try the liberal use of astringents, administered by the mouth and by the rectum. The patient was cold and blue, with imperceptible or scarcely perceptible pulse, profuse vomitings and purgings, cramps, shrunken features, sunken eyes, and corrugated fingers. ʒss. of Gallic Acid, and twelve to twenty drops of laudanum, with three or four ounces of starch, were injected into the rectum after each dejection; and five grains of Gallic Acid, with the sixth of a grain of Opium, were given in the form of pills after every vomition. A large hot linseed-meal poultice, sprinkled with turpentine, was applied from the pubis to the clavicles, and retained and kept warm by a flannel binder. Slight stimuli and cold water were occasionally given. Under this treatment the copious alvine evacuations were shortly restrained, and in the course of two or three hours entirely arrested; reaction came on, and the patient recovered after slight consecutive fever.

This case has been followed by sixteen nearly similar cases, treated in the same way, and with the same results. The first four of these were attended by Mr. Toogood and myself; three I saw with Mr. Pollard, the rest were under the care of Mr. Toogood, with the exception of the case of one woman, whom I was requested to see by Mr. Paul, and who subsequently died comatose, apparently from the retention of urine in the blood.

The success of these cases would certainly justify their being submitted to the profession, but they appear to me far more important as involving *a principle of treatment*. It is impossible to consider the great variety of remedies, of different and opposite characters, proposed and exhibited during this epidemic, too often at random and empirically, with no rational object in view, without acknowledging the want of some guiding principle of practice in this disease.

Perhaps it may be accounted for by its sudden invasion and appalling rapidity and fatality, wherever this pestilence has broken out, leaving men only time to wonder, and scarcely time to observe and reflect; but certainly there has been a lamentable want of application of remedies to its known pathological changes. Medical men seem to have been carried away by the vision of some specific mode of cure, or the hope of discovering its mysterious cause, instead of studying all that has been ascertained of its pathology. The first will probably be as fruitless as the dreams of the alchemists; and what reason have we to expect that the latter would be attended with any curative advantage? What do we know of the different subtle agents which produce the several fevers and exanthemata? And how little does our ignorance or knowledge of these agents affect our treatment of their consequent derangements! In the still more important object of *preventing* malarious and epidemic diseases, I trust there is some reason to hope for new light and new power from the application of the microscope and analytical chemistry to this subject; but surely we should not wait for the conclusion of these investigations before we endeavour to employ the knowledge we already possess of the pathological alterations produced by the unknown cause we are in search of.

A little reflection must convince any careful observer that there are certain pathological conditions in cholera on which we may hope to found a rational practice. The increased development of the intestinal glands and follicles, and inordinate action of the gastro-intestinal secernents and exhalants, the greatly diminished proportion of the serum of the blood, and the increased density and venous character of the blood retained, are all plain and ascertained facts, and lead to a reasonable hope that remedies directed to the arresting and removing these morbid

conditions may prevent their going on to a fatal termination.

The cases adduced, though perhaps too few to be conclusive, assuredly very much encourage this hope. The treatment adopted is the same in character as that suggested by Dr. Graves, and so successfully carried out by Mr. Beckett, of Hull. The gallic acid, or tannic acid, may have the advantage over the acetate of lead in not being sedative in their action; and there can be no doubt that the use of these remedies, by injection into the rectum, is a valuable modification of this practice. The good thus effected is probably chiefly owing to the extent and great rapidity with which exhalation and absorption go on in the large intestines; but something, I am disposed to think, is also due to an astringent and tonic effect on the sphincter muscles. In one case, during the administration of an enema, the sphincter was seen to be completely paralysed, the anus being open, and the contents of the rectum trickling away as from a drain. This state ceased after the injection.

The carelessness of nurses renders it necessary to remark, that no good can be expected from these injections if they are not carefully administered, if so much fluid be used as to excite the peristaltic action of the bowels, or the syringe used so imperfect as to inflate them.

In another communication I shall beg to add a few practical remarks on the cases which have come under my notice, and on some striking faults which have been committed in the employment of saline injections into the veins, a practice obviously founded on the same principle as that so successfully pursued in this place. The subsidence of the epidemic at Torquay will not admit, however, of my putting the treatment by venous injection to the test of experiment.

Torquay, Oct. 20, 1849.

DEATH FROM CHLOROFORM

ADMINISTERED DURING A SURGICAL OPERATION.

(*Communicated by* SAMUEL SOLLY, ESQ., *Surgeon to St. Thomas's Hospital.*)

JOHN SHORTER, aged 48, a porter, known to Mr. Solly for some time as a very active messenger, habits intemperate, but apparently in perfect health, was admitted into George's ward, under Mr. Solly, on the 9th October, 1849, suffering from onychia of the left great toe, which had existed some time. It was determined to remove the nail, the man having decided before entering the hospital on taking chloroform.

On Wednesday, Oct. 10, at a quarter to 2 P.M., he began to inhale the chloroform with one drachm in the inhaler. It had no visible effect for about two minutes: it then excited him, and the instrument was removed from his mouth, and about ten drops more were added; he then almost immediately became insensible: the chloroform was taken away, and the nail removed. He continued insensible; and, his face becoming dark, the pulse small, quick, but regular, respiration laborious, his neckerchief was removed, and the chest exposed to fresh air from a window close to the bed; cold water was dashed in his face, the chest rubbed, and ammonia applied to the nose. After struggling for about a minute, he became still, the skin cold, pulse scarcely perceptible, and soon ceased to be felt at the wrist; respiration became slow and at intervals, but continued a few seconds after the cessation of the pulse. Immediately on the appearance of these symptoms, artificial respiration was commenced by depressing the ribs with the hands and then allowing them to rise again until the proper apparatus was brought, when respiration was kept up by means of the trachea-tube and bellows, and oxygen gas introduced into the lungs by the same means. Galvanism was also applied through the heart and diaphragm, but all signs of life ceased about six or seven minutes after the commencement of inhalation. These means were persisted in until a quarter past 3, but to no purpose. On removing the inhaler, the sponge, which only contains one drachm, fell upon the floor, and the chloroform splashed about,—thus showing that a considerable part of the chloroform remained unused; so that the patient could not have inhaled more than a drachm. Every endeavour was made to procure a post-mortem examination, but in vain.

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 2, 1849.

Defoe relates in his history of the Great Plague of London that "the houses and walls were plastered with doctors' bills, or of ignorant fellows tampering in physic," of which the following are specimens:—"Infallible Pills against Plague;" "Sovereign cordial against corruption of air;" "Antipestilential Pills, never found out before;" "An Universal Remedy for Plague;" "the only true Plague Water;" "Royal Antidote against all kinds of Infections," &c.

It is also stated in this remarkable narrative, that the physicians of the day were constantly disputing amongst themselves on all sorts of subjects,—as, for example, upon the use of fires in the streets, as purifying agents; "some were for wood fires, and not coal, and others for coal fires, and not wood, and others were for neither one nor the other." "I cannot," says the writer, "give a full account of their arguments to and fro; only this I remember, that they cavilled very much with one another."

Although Defoe was born only five years before the occurrence of the great plague, and his history must have been therefore composed from hearsay statements, we think these may be taken as fair specimens of the irregularities of those who practised the healing art nearly two centuries ago. Let us now look to our own times.

The year of our Lord 1849 will be ever memorable in the history of London as the epoch of another terrible pest. But as medicine and the allied sciences have materially advanced since Defoe wrote, and particularly as the great mass of the profession is now more liberally educated, we might naturally have expected a corresponding improvement in the application of science to the treatment of disease, to say nothing of a higher state of morals.

But is this the case? Far from it. We have only to cast our eye down the advertising columns of the daily press, or to glance at the lucubrations upon cholera and epidemics which flood the pages of the journals, to dispel any and all such delusive expectations. We shall there find that if medical science has advanced, charlatanism has kept pace with it,—that nostrums and specifics "for all kinds of infections" are still as plenty as blackberries,—and that the reign of Charles II. is not the only period in England's history in which have flourished medical impostors, or "ignorant fellows tampering in physic." Indeed, should the cholera appear in the ensuing summer, we should not be at all surprised to see the counterparts of the following choice specimens of medical appeal, figuring in the columns of the "*Times*."

"An eminent high Dutch physician, newly come over from Holland, where he resided during all the time of the great plague last year, in Amsterdam, and cured swarms of people that had the plague upon them. He directs the poor gratis!"

Or, should the ladies catch the mania, and wish to turn a penny, here is a pattern ready cut and dried for their adoption:—

"An ancient gentlewoman, fresh from Naples, having a choice secret to prevent infection, which she found out by her great experience, and did wonderful cures with it in the late plague there, wherein there died 2000 in one day."*

It is with feelings of shame and sor-

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* Defoe's History of the Plague of London, p. 24.

row that we write these words; but we cannot shut our eyes against facts. We see a noble profession, than which none other is more calculated to awaken the loftiest aspirations of the human mind (for its object is the study of God's last and finest work—the structure and mechanism of man) prostrated beneath the feet of avowed quacks, and brought into public contempt by the morbid craving for notoriety of some puny minds, or the consuming *auri sacra fames* of others, who were bound by a solemn vow to support its dignity. When we find medical men, duly qualified, and holding some status in society, eagerly rushing before the public, and announcing in "the ordinary channels of information," specifics for a malignant disease, each of which we are told in turn is *the* genuine article, and therefore by implication that all others are false; when we find one practitioner boldly stating to the world that the infallible specific is to be found in chloroform; another that it consists in a saline purge, in sulphur, or bisulphuret of carbon; and a third with equal vehemence, "that it is a teaspoonful of carbonate of soda" (Vide *Times* of Oct. 10, 1849), can we feel surprised that the profession should be held so cheap by the public; or with any show of reason feel indignant when told by the Vienna correspondent of the *Times* that he is about to introduce to public notice "Dr. Bastler's Cholera Tincture, which is generally considered by laymen, who are the *best judges in such matters*, a most valuable remedy against cholera?

Does history afford no lessons, no experience, or examples, of the vanity, the fallacy, the mischievous delusion of "specifics?" Where are now the countless nostrums for consumption, which have flourished (for a day), unless they have passed on to that most tranquil of all resting places—oblivion! But they have served their purpose, *i. e.* of bringing into notoriety those who introduced them. Specifics for consumption are now laid aside, and specifics for cholera, as the latest novelty, have taken their place.

But there is another class of men, of a higher order, still more culpable: we allude to those who, eschewing the devious ways of the *trade* of physic, devote themselves to the cultivation of medicine as a science. It is the shallow sophisms, the crude generalities, the hasty conclusions of this class, ostentatiously put forth with all the imposing dignity of scientific research, that lead the reflecting portion of the community not unfrequently to look upon medicine as a "a mockery, a delusion, and a snare."

Witness the "Fungoid Theory of Cholera" just out. Where could we find a finer specimen of that spurious philosophy which inculcates the doctrine of "*post hoc propter hoc?*" It is the rash, illogical, and premature inferences of those fervid minds, which delight in startling the world with wonderful discoveries, that are most calculated to bring the microscope into disrepute, and throw a shade of doubt upon the real truths it discloses, and the incalculable benefit it has conferred upon the science of medicne.

The false application of one of those revealed truths—for which we are indebted to that instrument—to the theory of disease, either with the object of making it square with preconceived notions, or to give a show of plausibility to mere conjecture, has recently shown us the injury science can be made to receive through the agency of one of her most valued hand-maidens.

Minute fungi, or organisms, as they are called, have been discovered by the aid of powerful microscopes in the excretions, &c., of cholera patients, and in

their intestines after death. The excretions and bodies of persons dead of other malignant diseases, after careful and minute inquiry, have, it is said, failed to disclose similar organisms, or any traces of them. The original discoverers of the fungi have stopped here: they contented themselves with merely recording what they observed; but the subject was instantly taken up in the public journals, and a theory founded upon it, which has gone the round of the daily and Sunday newspapers. It ran thus:—The fungi or organisms are peculiar to cholera; *ergo* they are the cause of that disease; *ergo* their immediate destruction is a sure preventive against the spread of the malady, and that object is effected in the easiest manner possible, by simply throwing the excretions in which they are found, when expelled from the body, into a chemical solution!

This mode of dealing with medical researches, *i. e.* of adopting hasty conclusions, and giving them a spurious newspaper currency, is derogatory to the true character of science; it is altogether unworthy of a profession which calls itself "learned," and is alike calculated to lower in public estimation, not only Medicine, but all who are engaged in its pursuits. In strongly condemning such conduct on the part of qualified practitioners, we believe that we shall carry with us the sense of all the honest and right-minded men in the profession, who do not wish to see the medical vices of Defoe's time perpetuated, nor the humiliating reproach of Adam Smith everlastingly thrown in their teeth; for that great authority tells the world that "the success of quacks in England is altogether owing to the real quackery of the regular practitioners."

Some misunderstanding has arisen regarding the real nature of the peculiar bodies observed in cholera evacuations by Mr. Brittan and Mr. Swayne. About three weeks since we inserted a short notice of Mr. Busk's views regarding the so-called cholera cells or fungi. This gentleman, who is well known as an accurate microscopical observer, considers that two varieties of the peculiar bodies described by the Bristol microscopists, are nothing more than particles of bran, and the sporules of a species of uredo. A communication on the subject from Mr. Busk appeared in our number of last week,* and in this Mr. Busk states his views more explicitly. It will be perceived by reference to his letter, that he considers the smaller discoid annular bodies averaging about 1-3000th of an inch in diameter, to be *altered blood discs*. It is creditable to the candour of Mr. Busk that he took the first opportunity of correcting the latter statement by sending us a letter, from which the subjoined paragraph is an extract. It was his desire that it should be inserted in the last number; but the journal was in the press before it reached us. Mr. Busk states—

"Since that letter was sent, I have been kindly informed by Dr. J. W. Griffith, as to certain chemical characters of the small "annular bodies," which would seem to make it impossible that they should be altered blood discs, as I supposed simply from their form. As I have had no opportunity of applying chemical reagents to them, my erroneous supposition is the more excusable. The statement of their true nature I of course leave to those to whom its discovery is due, and am,

Your obedient servant,

Geo. Busk.

* Page 734. The short notice inserted the previous week, at p. 692, was not forwarded by Mr. Busk, but by a physician of good professional standing, who was present at the meeting of the Miscroscopical Society when the subject was under discussion.

From this we learn that *form* alone is insufficient to solve a microscopical doubt. The aid of chemistry is required to elicit a difference of properties between bodies which possess a similarity of form. It is, we think, clear from this letter that Mr. Busk has had no other desire than to arrive at the truth, as he has not hesitated to withdraw one of his conclusions which was not supported by chemical investigation. It appears that the question in dispute between Mr. Swayne and Mr. Busk is whether these bodies be really of a kind peculiar to cholera, or simply particles of bran mixed with sporules of a species of uredo. Mr. Swayne asserts that they are bodies of a peculiar kind, and that they differ from all the varieties of uredo which he has hitherto examined.

In the meantime the Cholera Committee of the Royal College of Physicians have been busily engaged in an investigation of the subject, and the results of their researches will be found duly reported in another part of this journal.* They unequivocally support the views entertained by Mr. Busk, and establish, by carefully conducted experiments and observations, that the cholera-fungoid theory has no substantial existence.

We elsewhere† insert the report of a recent trial at the Central Criminal Court, in which a medical student was charged with having caused the death of his brother by *homœopathic* practice. Neither the indictment nor the evidence sustained the charge. The former alleged that death had been caused by reason of the accused not having allowed the deceased *sufficient food* and *nourishment;* but the medical evidence clearly established that the deceased was suffering from malignant cholera, and that he was in a very critical state before he was seen by the defendant: in fact, the medical witness for the prosecution admitted that when he first saw the deceased the disease was of itself sufficiently urgent to have caused death. It is not surprising, from this evidence, that the Grand Jury should have thrown out the bill, and that the jury at the trial, without calling for a defence, should have returned a verdict of *Not Guilty.* There are hundreds of medical practitioners who might with equal reason have been put upon their trial for the results of their cholera practice. Those who have resorted to the free employment of iced drinks and cold water, and who had not at the same time provided food and nourishment for their patients, under the idea that the viscera were incapable of assimilating it, have had a very narrow escape. We could name half a dozen practitioners, who, upon this peculiar view of the crime of manslaughter, ought to have been placed in the dock at the Old Bailey, to answer for the unfortunate results of their practice. The case might well call forth the indignant remonstrance of the Judge, Mr. Justice Maule, who, after all the evidence for the prosecution had been given, said, "How any man could be found to say that the defendant was guilty of manslaughter I cannot conceive."

We are no defenders of homœopathy or homœopathic practice, as our columns have at various times sufficiently proved; but we regard anything like persecution, whether directed against medical student or practitioner, with aversion. It damages the character of the profession, and weakens the power of its members to benefit the public, by the prosecution of unlicensed practitioners.

We cannot conclude these remarks

* See page 775.
† Page 773.

without directing attention to the very unpleasant position in which the medical witness placed himself by not giving a plain answer to a plain question.

"Mr. JUSTICE MAULE.—Would it be a proper course in the case of a cholera patient who was in a state of collapse to give solid food, or would the bowels be in a condition to receive it?

"WITNESS.—*He could have had liquid food.*

"Mr. JUSTICE MAULE.—Why do you not answer the question? Would it be proper to give solid food?

"WITNESS.—No."

Whatever a witness may think of the relevancy or irrelevancy of a question put to him by a judge, barrister, or coroner, he should always give a plain straightforward answer. If a lawyer does not obtain a plain answer at once, he will be sure to extract it, to the discomfiture of the witness, in a circumlocutory way. The judge said nothing about *liquid* food; and if, after having replied to the question as the witness was subsequently compelled to reply, in the negative, he had qualified his answer by stating that the stomach in this case might have received and retained *liquid* food, he would have equally attained his object, and have avoided exciting the displeasure of the Court. We must admit, however, that by the verdict of the coroner's jury the medical witness in this case was placed in a most unfortunate position. He was expected to prove that a man labouring under an attack of malignant cholera had died, not from the disease, although this was admitted to have been urgent enough to have caused death, but from the want of sufficient food and nourishment withheld from him by the accused, when, as the witness admitted, in answer to a question from the learned judge, he saw nothing which induced him to believe that the defendant had acted improperly in the case!

WE are desirous of correcting an error which crept into our notice of the case of LORD *v.* WAKLEY in our last number. We stated that MR. LORD had had to pay the costs incurred by his appeal to the County Court, and this statement was apparently confirmed by a passage contained in the leading article extracted from the *Lancet* (page 717) to the following effect:—"He (Mr. Lord) has become a non-suited plaintiff, and saddled with the costs attendant upon his own unreasonable conduct." We are informed, however, that the real state of the case is this. Upon the plaintiff being non-suited, MR. H. M. WAKLEY, the Deputy-coroner, applied to the judge for *his* costs; but the judge refused the application, probably considering that Mr. Lord had had good and reasonable ground for endeavouring to procure his fee. Therefore, plaintiff and defendant were equally "saddled" with costs.

RESPONSIBILITY FOR ACTS COMMITTED BY PERSONS IN A STATE OF DRUNKENNESS.

AT the recent Sessions at the Central Criminal Court, a man of the name of Chalton was tried upon a charge of bigamy. A witness of the first marriage, who was called for the prosecution, admitted that the prisoner was very drunk at the time he was married. The prisoner in his defence said he never knew anything about his first marriage, as he was in a state of drunken insensibility two days before and two days afterwards. The witness on being recalled said that she recollected the wedding-day, and that the prisoner was extremely drunk. He certainly walked into the church, but had a very hard matter to walk out again. The next day when he awoke he was quite unconscious of where he was, and did not know that he had been married. He, however, subsequently lived with the woman who claimed to be his wife, and had a family by her. He was found guilty, and sentenced to twelve months' imprisonment and hard labour.

The case is singular, inasmuch as it establishes that a man may be held responsible for a valid consent to the act of marriage, although he may have been at the time in a state of extreme drunkenness.

Reviews.

Lectures on Medical Missions; delivered at the instance of the Edinburgh Medical Missionary Society. Small 8vo. pp. 320. Edinburgh: Sutherland and Co. London: Simpkin and Co. 1849.

It is not long since (April 6th), that in our notice of Professor Miller's Lecture on Medical Missions, we took occasion to urge very strongly upon our readers the claims of medical missions. The paramount importance of these will, we trust, be unhesitatingly conceded; if any doubt of their requirement or expediency should be entertained, the space we can again afford to their advocacy would not, we fear, suffice for their removal. We shall therefore, on the present occasion, only direct attention to this volume of lectures, in which our readers will find not only their doubts resolved, but we believe their sympathies enlisted in behalf of the good work.

One feature in this volume deserves notice, as affording a refutation of the unfounded charge of infidelity against the members of the medical profession; and that is, that of the six treatises which it contains, four are the performances of medical authors, while two only are from the pens of clergymen, whose exclusive privilege it has hitherto been to advocate missionary objects. We confidently affirm that these medical writers faithfully represent the sense of a large majority of their professional brethren.

The introductory essay by Dr. Alison points out, as the result of medical science when placed on its true foundation, its development of natural science in strict conformity with sacred history, and constitutes a learned and philosophical exposition of the harmony of the sublime precepts of christianity with the highest social condition of man.

Mr. Miller's argument for missions has already been considered in the notice above alluded to. The Rev. W. Swan's historical sketch of medical missions is instructive and impressive, embodying the most cogent reasons for their establishment, and exhibiting their beneficial results to medicine and science; the latter argument may be influential with some few to whom higher motives may not find so ready an access.

Mr. Brown's lecture on the qualifications of a medical missionary, sets before us the indispensable need of educational acquirements; but at the same time enforces the necessity, above all, of personal religion—genuine christian religion,—in the medical missionary.

The Rev. Jonathan Watson points out the duties of the medical missionary in strict relation to the great end which he has in view, and to enable him to cope with the various hindrances and difficulties which may beset his path.

"The sacredness of medicine" is the topic of Dr. George Wilson's lecture, in which he lays down its responsibility, its relation to the soul, its essential benevolence, morality, and christianity, its humanity, and its confidential character.

We must find room for one quotation, which we cannot resist presenting to our readers from the intrinsic beauty of the passage, and the undeniable value of its sentiments:—

"I may seem to you to strangely overstate the matter, when I speak of medicine as aiming at the realization of immortality for man. Yet this assuredly is the abstract or ideal claim of our profession. On this earth the fundamental idea of our calling is never realized. Every patient of every physician dies, and every physician in turn becomes a patient and dies too. All that the minister of the body succeeds in effecting is the adjourning of the day of death, the postponement of the inevitable hour. Practically he fights against pain rather than against death, regarding the latter as unavoidable, and seeking only to delay its arrival, and to lessen its pangs. Yet the spirit in which the physician labours is assuredly that of regarding death *not* as an invincible foe. He may believe as a man, that death will conquer, but, as a physician, he stands over his patient to fight the great enemy to the last, as if there might be one exception, if but one, to the otherwise universal law. And if no exception ever occurs, if the physician is invariably defeated, the conclusion to be drawn from his discomforture is not that his hope of success was delusive, but that he erred in expecting its fulfilment in this world. Let but a life beyond the grave be admitted, and an immortality both of soul and of body be believed

in, and the Christian physician, at least, can anticipate with certainty the full realization of the fundamental idea of his high calling." (p. 256.)

The last lecture in the volume treats of the responsibilities which attach to the profession of medicine. Dr. Coldstream places this subject before his readers with the greatest force and eloquence, judiciously illustrating his exhortations by examples. The names of the medical worthies whom he adduces as instances of the high character of medical missionaries, taking the name in its widest sense, are those of Harvey, Browne, Boerhaave, Fothergill, Cheyne, Pringle, Swammerdam, Winslow, Lettsom, Haller, Hey, (whose name stands amongst those of the first founders of the Church Missionary Society), Jenner, Vanderkemp, Bateman, Mason Good, Knighton, Turner, Hope, and Abercrombrie.

We must here conclude our remarks on these lectures; their truly religious spirit, their exalted eloquence, their unanswerable arguments, must command that measure of attention which no commendation on our part can augment. We cordially commit them to the consideration of our readers, old and young, the more earnestly that while they are directed especially to one particular end, they recognise the Bible as the great rule of human intercourse, and at the same time inculcate, both by precept and by example, the only true basis of medical ethics; that moral rule, so simple, yet so comprehensive, to which all the wisdom of all the sages of heathendom could not attain—the great christian principle—to do unto others as we would they should do unto us.

Questions and Observations in Hygiène; recommended to the consideration of Naval Medical Men. By Fred. James Brown, M.D. Lond., &c., Assistant-Surgeon, R.N. Pamphlet, pp. 64. London: Churchill. 1849.

Few surgeons in civil life, whose energies are directed to sanitary measures on shore, would imagine the amount of neglect of the commonest hygienic precautions which this pamphlet reveals to us, as existing on board the Queen's ships. That not a little improvement is needed will be evident from the following brief extracts and notice:—

The author has arranged his questions and observations under the six following divisions:—

1. Condition of the sick-berth, and round-houses or necessaries.
2. Cleanliness, washing, and airing of clothes, &c.
3. General clothing, ventilation.
4. Articles of food, water.
5. Use of rum and tobacco; leave.
6. Use of fruit. Diarrhœa and cholera. Sick-berth attendant.
7. Discipline.

We have made the following selections as instances of the evils calling so loudly for redress:—

"In line-of-battle ships the number of necessary seats varies from eight to fourteen. When it is considered that upwards of nine hundred men have the use of only eight seats, it must give rise to wonder at the men preserving their health, as in many cases derangement of the bowels ensues from delay in attending to the calls of nature." (p. 15.)

In a note to the preceding extract we find that on board the "Howe" there are eight seats for 1164 men and boys = 145½ for each seat. This, divided by 24 for the hours of the day, gives 6 and a fraction for each hour, or less than ten minutes for each individual—a curious instance of the results of statistics applied to the wants of nature! After noticing the occurrence of disease as a consequence of bad water, the author puts the following question and observation:—"Do you possess the means of applying chemical tests to the water?"

"It is proper that every surgeon should supply himself with a chemical testing apparatus; but his cabin is frequently dark, or in the next degree to it, preventing him from employing the agency of light, or being sure of the results of his experiments; and the assistant-surgeons have no means of operating in chemistry, for they have no cabins." (p. 35.)

We have very recently taken occasion to point out the great injury which must inevitably accrue to medical science from the position in which the assistant-surgeons on board ships of war are most unjustly placed; and we have in this statement a pointed illustration of the truth of our remarks.

The author clearly exhibits the highly

favourable conditions to be found on board H.M. ships for the spread and maintenance of ochletic diseases.

We trust that naval medical officers will have their attention drawn by Dr. Brown's pamphlet to the eradication of many of the evils that he has indicated. It is to be regretted that there is no Government Board possessing sufficient power to enforce attention to similar evils on board ships in the Merchant Service, where, from our experience, still less regard is paid to Hygiene. As the natural result of this state of things, our merchant vessels become floating pest-houses in the open ocean, and fever and other contagious diseases are frequently imported into our sea-port towns.

Introductory Lecture to a Course of Surgery to the Medical Class of Geneva College, U. S. By Professor Bryan. Pamphlet, 8vo. pp. 20. Geneva, N. Y.: Parker. 1848.

The topic here selected by the lecturer to introduce the study of surgery to his class is the life and character of Baron Larrey. This lecture has been published at the request of the class before whom it was delivered. We concur in their desire to possess in a durable shape so interesting and instructive a sketch of a life so eventful. There are sufficient reasons why the character of Larrey should be held up to the admiration and imitation of surgical students. But when we recal to mind the gigantic schemes of which the campaigns in which Larrey served were but a small part, and that the veterans of the oldest European armies were the combatants whose deadly strife furnished the glory and the wounds, we could not repress a smile in reading the following passage :—

"One more reason why I have selected Larrey as the subject of my introductory lecture. Our country has been, and will probably again be, at war. The fame of Palo Alto, Resaca de la Palma, Monterey, and Buena Vista—with that of Vera Cruz, Chapultepec, Cherubusco, and Mexico—are now chronicled with the battles of New Orleans, Georgetown, Princeton, and Bunker Hill. The story of our prowess has swept across the broad Atlantic, and Europe is forced to acknowledge our equality to her in the stern virtues of war."

This warlike quotation does not, however, detract from the general value of the address, which presents an interesting sketch of the life of one of the greatest military surgeons the world has ever known.

Medical Ethics; or a Code of Institutes and Precepts, adapted to the professional conduct of Physicians and Surgeons. By the late Thomas Percival, M.D., F.R.S. 3d Edition. Small 8vo. pp. 194. Oxford: Parker. London: Churchill. 1849.

We are glad to welcome a new edition of this excellent work. The recent establishment of Medico-Ethical Societies in various parts of the kingdom is a proof that the profession is alive to the importance of the subject. The best reform of the profession would, indeed, consist in the manifestation of a general desire to uphold its dignity by a strict attention to those principles of conduct which have been so judiciously selected for the guidance of medical practitioners by the author of this volume. There are many who do not know the rules which should govern professional intercourse: there are others who know them, but make light of their violation. To both this book would be an acceptable guide; it would teach them that real success in practice is only to be obtained by an attention to the golden rule—"Do unto others as you would that it should be done unto you." To those who are not acquainted with the work, we most strongly recommend it as an authority to which they may safely appeal when they are desirous of avoiding collisions with their professional brethren. It is announced by the editor that the profits derived from the sale are to be given to some medical charity.

Code of Ethics of the American Medical Association. Reprinted from the American edition. Pamphlet, 12mo. pp. 36. Oxford: Parker. London: Churchill. 1849.

This is a useful addition to Percival's Medical Ethics. The code here reprinted from the American edition has been adopted by the American Medical Association, and may be regarded as the recognised code of medical ethics throughout the United States. The code appeared in a late number of one of the American medical journals. We

agree with the editor in thinking that its reprint in an easily accessible form will be found serviceable in this country. In many respects it is admirably adapted to the wants of British practitioners, and we think that it will prove a useful guide to those who desire to maintain the honour and dignity of the medical profession.

Holden's Manual of Dissection. Part II. pp. 199. 8vo. London: Highley. 1849.

We have already expressed a favourable opinion of the plan of this work in our notice of the First Part.* The second part, now before us, carries on the anatomical student to the dissection of the neck, face, and chest, including the adjoining regions, and the viscera of the chest. Mr. Holden has adhered to his original plan of giving practical information in a concise and easily accessible form. Two more parts are required to complete the work, and it is desirable that these should be published with as little delay as possible.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, October 15, 1849.

Cæsar Hawkins, Esq., in the Chair.

Mr. Hawkins having paid a feeling tribute to the memory of the late President—

Dr. J. Risdon Bennett exhibited a specimen of

Carcinoma of the Stomach and Intestines,

taken from a patient who died under his care in St. Thomas's Hospital, and of which he gave the following history:—The man, who was of a spare habit and had a cachectic aspect, had for some time been the subject of dyspeptic and various anomalous symptoms (but not, so far as was known, of diarrhœa or dysenteric symptoms), but had chiefly complained of pain in the loins, of the character of lumbago, for which he had once been cupped, and which had frequently been relieved by guaiacum. Complaining of such symptoms, and of more than usual debility, he was admitted into St. Thomas's Hospital. When first seen by Dr. Bennett, he was suffering from considerable dyspnœa, attended by some cough and fever. On examination, the right side of the chest was found to be full of fluid; he was cupped, and had Dover's powder and calomel ordered for him, with a saline mixture containing small doses of tartar emetic. The dyspnœa, however, increased, and he became much exhausted, more so than could at the time be satisfactorily accounted for. His bowels also became very irritable, which was attributed to the small quantity of antimony he was taking. This was discontinued, and he was allowed a little wine; but he speedily sank. On examination, the right pleural cavity was found filled with bloody serum, in which were clots of blood. The serous membrane was throughout coated with fibrin, and the lung (healthy in structure) compressed against the spine. Over the head of one rib there was a small fungous tumor, which appeared to arise from the head of the bone. The investing pleura was apparently entire, although of this there was some doubt. The opposite lung and the heart were healthy. The stomach was the seat of extensive fibrous carcinoma, and a considerable portion of the mucous covering of the smaller curvature was ulcerated. There was a mass of glands behind the stomach, and adherent to it, in a state of carcinomatous degeneration. Throughout the ileum and colon there were seen a number of round or oval nodules, of a white colour and firm texture, presenting the characters of fibrous carcinoma. The mucous membrane investing these tumors, and throughout the alimentary canal, was entire. The carcinomatous tumors did not appear to have any special connexion with the intestinal glands. A few of the lumbar glands were enlarged and indurated.

Dr. John Scott exhibited a specimen of

Cysts connected with the Kidneys,

which were taken from a patient, ætat. 50, who had beeen labouring under anasarca since the beginning of July last, and had been treated for the complaint as dependent on cardiac and bowel disease; the symptoms indicative of these morbid conditions, especially the cardiac, being well developed. The autopsy demonstrated the accuracy of the diagnosis, the left ventricle being extensively hypertrophied, and the coronary arteries in their general distribution being filled with atheromatous, and in some patches with calciform deposits. The lungs in their upper lobes were emphysematous and œdematous, and filled with a sero-aerated fluid, especially the right, which was also partially adherent to the costal pleura, and there was a considerable effusion in the right pleural cavity.

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* Medical Gazette, Vol. xliii. page 423. March 9, 1849.

The liver appeared to be healthy, and of its usual size, but rather tough on being incised: the gall-bladder was empty. The spleen was double the usual size, and congested. Pancreas healthy; mesenteric glands of large size, but of apparent healthy structure; the left kidney was smaller than the right, its capsule thickened and covered in various places with patches of old deposits of lymph: it was very closely adherent to the cortical substance, which, on its removal, displayed the distinct granular appearance, with several cysts and one large fatty deposit, of firm consistence, passing through and destroying the cortical and tubular structure. The right kidney was covered with cysts of various sizes and colours, the largest of which was ruptured during the examination: it contained about four or six ounces of sero-albuminous fluid.

Mr. Toynbee exhibited a specimen of

A Portion of Bone in the cavity of the Elbow-joint.

The subject from which the specimen was removed was brought into the dissecting room, and no history of the case was obtained. The preparation consisted of the right elbow-joint of an adult, in the upper part of which was a portion of bone, about the size and shape of a large horse-bean: its anterior surface, slightly convex, was attached by fine cellular adhesions to the capsular ligament; its posterior surface, irregularly concave, was partially received into the trochlea fossa: the inferior extremity smooth, and covered by a fine membrane: in a flexed state of the joint this surface was in contact with the apex of the coronoid process. The coronoid process, larger than natural, presented three tubercle-shaped eminences, one of which, being the size of a split-pea, formed the apex of the process, and was attached to the ulna by delicate fibrous tissue.

Mr. Forster exhibited a specimen of

Tumor from the Dura Mater, with Caries of the Temporal Bone.

A strumous lad, aged 18, was knocked down by a cab nineteen months ago, and struck on the right side of his head. He soon afterwards became deaf, and suffered severe pain; the part became slightly swollen and excessively tender, especially over the mastoid process; the swelling did not increase, and the pain in the head became most intense; paralysis of the facial nerve also took place. No great change occurred until within the last six months, when, from another blow on the same spot, the disease seemed to become more active; the side of the head, from above the temporal ridge to two inches below the ear, became enormously enlarged and tender; the external ear appeared as though pushed away from the side of the head. He experienced great difficulty in swallowing solid food, unless washed down with some fluid, from paralysis of the glosso-pharyngeal: was also unable to speak.

About two months ago the swelling began to fungate and slough; profuse hæmorrhage occurred at intervals; sloughing very rapidly took place, and at last laid bare the pharynx: to such an extent in all directions had the destructive action taken place, that a large chasm appeared formed around the ear, leaving that organ completely isolated. No brain symptoms occurred. The profuse hæmorrhage, and constant drain of pus quickly destroyed him.

Post-mortem appearances. — The brain appeared perfectly healthy, except at the lower part of the right hemisphere, occupying the middle fossa of the base of the skull, which was pulpy and very soft, occasioned no doubt by the upward pressure of a hard scrofulous-looking mass attached to the petrous portion of the temporal bone through the intervention of the dura mater, from which it seemed to spring. This mass pressing upon the bone below appeared as though inclined to force its way downwards through the temporal bone at the junction of the squamous with the petrous portion, a great part of the latter being completely absorbed. Some new bone appeared formed at the inner extremity of the preparation; the whole of the exterior was occupied by a sloughy mass and carious bone, the surrounding parts being very hypertrophied: no vestige of meatus or mastoid cells could be discovered; the lateral sinus appeared filled with a coagulum.

Mr. Nathaniel Ward exhibited a specimen of

Perforating Wound of the Skull, closely resembling that which would have been made by a bullet.

A woman, æt. 23, was admitted into the London Hospital, Aug. 18th. A short time before her admission, her husband, in a state of intoxication, had seized a small kitchen poker, which was heating in the fire, and implanted it at once in her skull, where it remained for about two or three minutes, and was taken out by the daughter.

There was a small irregular scalp wound, about an inch and a half below and behind the left parietal portubrance, and through this, brain was exuding. The bone beneath having been freely exposed by the scalpel, presented a small, sharply-defined *circular* opening. One or two small spicula of bone in contact with the circumference were all that could be detected; and it having been concluded that the remainder was driven into

the brain, a probe was passed down in the course of the wound inflicted by the instrument, but none could be detected. She sank in the course of twenty-three hours: the chief symptoms during life being, perfect insensibility, contracted pupils, slow and feeble respiration, and small pulse.

On the *post-mortem examination*, the external aperture in the bone was found not in any way starred; it was all but circular, the horizontal and vertical diameters being five and a quarter French lines. The internal opening was larger, having a vertical diameter of seven and a half lines, a horizontal of seven; it was rough, and had adherent to it several irregular triangular bits of bone pressing on the perforated dura mater. The brain had been traversed to the extent of about three inches from the external opening downwards, forwards, and inwards, as far as the top of the left side of the fourth ventricle, which the instrument had all but entered, passing however a little to the left, and contusing and lacerating the left third of the pons Varolii. The brain-structure in the track of the instrument thus indicated, was irregularly contused and mixed up with coagula of blood, and had imbedded in it, near the bottom of the wound, one large and several smaller bits of bone, which had been driven in from the surface.

The case was interesting as showing the great resemblance the opening in the skull had to a bullet-wound. The difference in the size of the internal and external openings of the bone Mr. Ward was inclined to attribute to the amount of force applied to the internal table being less than that to the external, rather than to the brittleness of the one table being more than that of the other.

In support of this view Mr. Arnott alluded to a case in which a man had inflicted on himself a perforated bullet-wound of the skull, by directing the pistol upwards from his mouth. If his recollection served him right, the opening in the external table of the skull was larger than that in the internal, which should not have been the case did the difference in the size of the apertures depend on the relative brittleness of the tables.

A specimen of the cells found in the evacuations of cholera having been exhibited by Mr. Swayne, the meeting adjourned to Nov. 5.

MEDICAL SOCIETY OF LONDON.

Monday, October 8, 1849.

Mr. Hancock, President.

New Vapour-Bath, and its medical applications.

Dr. Golding Bird exhibited a vapour-bath, the invention of Mr. Moss, of Bartholomew Square, Old Street. It consists of an outer case or boiler, not unlike a waggon-boiler in appearance, and is supplied to a regulated height with water, for which purpose the feeding aperture is so constructed as to prevent mistake, the water finding its own level, and regulated in quantity for the prevention of boiling over, or (as water) communicating with the pipes. A valve is attached, for the safety of the apparatus. At the front end of the boiler an aperture two inches in diameter leads to an internal trough, which is water-tight, with the exception of an orifice open three-quarters of an inch at the top, and extending nearly to the extremity of the boiler; this trough is designed for the admission of medicaments. From the outer case, and into the interior of the trough, a perforated box and cover is fitted, which can be used or dispensed with at pleasure. Its design is for the reception of sponge or lint upon which any liquid can be retained. The trough, box, &c., are covered by a small cover (not unlike the cover of a syrup-bottle), and can be adjusted instanter. In the centre of the cover a pipe is fixed, on which an elbow can be slipped to regulate any height or direction desired; to this can be attached a pipe, regulating the length for the conveyance of the vapour; the whole preparation occupying but a few seconds. The larger pipe, for general diffusion, does not require a pad, but a smaller pipe, suited for local application, is fitted with the perforated pipe and flannel pad. The vapour generated in the boiler passes through the trough, thence through the box onwards, medicated in its progress towards the pipe and the patient.

Dr. Bird illustrated the ease with which the apparatus could be applied, and he related three cases in which it had been found of great service in Guy's Hospital. A little boy, two years and a half old, a remarkably fine and healthy-looking child, was brought to Guy's Hospital, about twelve months since, by his mother, doubled up, as it were, in her lap. His countenance was expressive of great anguish. It appeared that a few days before he had fallen into some cold water; the accident was followed by the usual symptoms of a cold, and by a total incapacity of bending the limbs, any attempt to extend them causing extreme agony. The case presented in this respect all the characters of acute rheumatism, but there was no swelling or redness of the joints, and only slight febrile symptoms presented themselves. The spine was healthy. The case was regarded as acute rheumatism. He was in the hospital for several days; perspiration often occurred, but the skin was cold and clammy. He was ordered the vapour-bath, and after two or three applications of this remedy he could use his limbs, and in ten days was

well. Two other cases of a similar nature had occurred, and had been treated in the same way with success. In two of these cases the slightest *frottement* was heard during the progress of treatment: in one it had disappeared; in the other it still remained. In one lighter case, the iodine of potassium had been used with the warm bath; the patient got well, but was longer in recovering. These cases were peculiar, and could not be called rheumatic, in the strict sense of the word. There was no description of them to be found in books. In two of the three cases the urine had a milky appearance, and contained urate of ammonia.

Monday, October 15, 1849.

MR. HANCOCK, PRESIDENT.

Dr. Clutterbuck on Cholera.—Dr. Ayre's Treatment.

DR. CLUTTERBUCK, in rising to make a few observations on cholera, trusted that the subject would, now that the disease was on the decline, be discussed in a calmer spirit than it had been on previous occasions. First—What did we know of the nature and origin of the disease; and, secondly—How should we treat it? In answer to the first question, the origin of the disease was so obscure, that we could only regard it as an epidemic; but this gave us no insight into the real nature of the affection,—into, in fact, the physical cause of it. In answering the second question, we might make this inquiry as a preliminary step. Do we know enough of the disease to treat it on any principle? He thought not; and hence he was opposed to vague, uncertain, and violent treatment; such as the calomel treatment in large and often-repeated doses, opium in excessive quantities,—and, in truth, to all specific modes of treatment whatever. He firmly believed that treatment of this character had conduced to a greater mortality from the disease. Having no certain guide to follow, then, except observation, he had come to the conclusion that one of the most essential points to practice was, not to do harm. The disease was incurable; no remedy could be relied on; and, therefore, all we could do was to palliate, with the hope of bringing the disease to a favourable termination. With these impressions, then, if the disease commenced with vomiting, he should encourage it by mild means; so, if purgation existed, he should use the mildest purgatives in assisting that effort of nature to throw off the disease. We should take the symptoms given by nature as our indications of treatment. When the vomiting and purging had existed a short time, he should administer opiates very carefully, and take means to restore the animal heat. He believed that, as a general rule, those cases had done the best in which we palliated with mild means, and gave the disease time to subdue without destroying the patient.

MR. HEADLAND considered that much injury had been done to the medical profession by propagating statements respecting the inefficiency of medical treatment in cases of cholera. He contended that the remedies and measures suggested by our profession had been of the most essential benefit to the public. He regretted that the Government had not availed themselves of the assistance of the College of Physicians. It had been said that the profession possessed no remedy for cholera. Why, what remedy had we for any disease, except sulphur for the itch? Did we possess a remedy for scarlet fever, for small-pox, or for any other disease? The answer must be in the negative, and therefore our ignorance of the nature of cholera poison was not more decided than it was of the poison of other diseases. In each and all of them we only saw the results. We observed that it was a poison, and if the person affected with it was not strong enough to resist its effects, he died, and this in spite of all, and any, medical treatment. But did not the same fact obtain with respect to scarlet fever? Many cases were too sudden in their seizures to allow of available medical treatment, but in others it could be, and had been resorted to, with success. He still would assert that the public were under deep obligations to the profession, for the promulgation of a knowledge of those preventive means, in regard to water, sewerage, and other causes, on which the spread of the disease mainly depended.

Dr. GOLDING BIRD remarked that the true mission of the medical profession was the prevention of the spread of the disease by the promulgation of hygienic laws. Bad drainage, low situations, filthy and narrow streets, were among the chief causes, in addition to impure water, of the spread of cholera. With respect to the calomel treatment—that by small and often-repeated doses—he had seen much of it, both at home and abroad; he had tried it himself, carefully, assiduously, and constantly; and he had come to the conclusion that it was of no benefit whatever. He could only reiterate the opinion of his colleague, Dr. Hughes, on this point.

MR. HIRD could not agree with Dr. Clutterbuck respecting waiting for a favourable change in cholera; for when cholera was fully developed medicines were of little or no utility. He had, in the epidemic of 1832, employed calomel both in small and large and often-repeated doses. The plan of treatment was utterly useless.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Oct. 20, 1849.

MR. HIRD, PRESIDENT.

Case of Fungus of the Bladder.

MR. NUNN exhibited a drawing of a fungus of the bladder. The fungus was situated a little to the right of the median line of the bladder, and of the size of a small walnut. He reminded the Society of a case produced by him last session, of a similar nature; in both cases no other evidences of disease than the passing of blood with the urine had ever existed. He stated, that in both cases the amount of blood passed was always increased by the introduction of a sound or a catheter. In both cases the ordinary symptoms of malignant disease were not to be observed. The inference that he thought himself justified in drawing was, that where hæmaturia existed without such symptoms as would enable the practitioner at once to determine upon the precise seat of the disease, the discharge of blood being at the same time greatly aggravated by the introduction of instruments into the bladder, there fungus might be reasonably expected. Mr. Nunn particularly wished to express the obligation he was under to Mr. Partridge, for his kindness in lending him the drawing, and for the particulars of the case.

On the Muscular Contractions which occasionally happen after Death from Cholera.

Mr. W. F. BARLOW detailed two striking cases in which muscular movements occurred after dissolution, and lasted for a very considerable time. The muscles of the arms, chest, and legs, and in one of these examples those of the face, were observed to be affected, some muscles being much more influenced than others. Some of the movements in respect of form were not unlike those of volition. In one of these cases the motions ensued two minutes after death; in the other, a quarter of an hour. In both, the muscles of the lower extremities were first affected, and the movements appeared successively in those of other parts. Two cases, very well marked, accurately observed, and presenting very similar features to the foregoing, and which had occurred long ago in India, were referred to. The author described those more local and transient forms of the affection which were more commonly observed; the movements might be confined to the legs, the chest, the face, to a single muscle, or even to certain fibres of it. A case of cholera was on record in which paralytic muscles had been affected by spasms. These post-mortem contractions had been stated by an observer to admit of excitement and aggravation by "pricking." The writer had endeavoured in one instance well calculated for experiment to repeat the observation, but had been unsuccessful. However, this was only a single remark, which he desired might be rated at its proper value. He had used, also, water of the heat of 150°, and of a yet higher temperature, in order to discover if the motions could be either induced or affected by it; no definite result could be obtained. Probably these motions, which had as remarkably narrow a sphere of action in some cases as they had a wide one in others, would have been much more frequently met with had they been sought for. Attention was directed to the terror which they had caused to ignorant persons and persons not ignorant; they had given rise to unfounded notions of persons being buried whilst yet alive. They had been seen by friends, to their extreme amazement, as they were watching the bodies of their deceased relatives; and it was necessary, with the view of preventing groundless alarm and false conclusions, that all persons who might come in contact with the corpses of those who had perished from cholera should be informed that it was by no means extraordinary for such actions to be witnessed after death in this disease. The author had no explanation to offer of the cause or causes of these curious phenomena. For the present, they must be viewed as facts. Groundless speculations would only surround them with unnecessary mystery. He concluded by proposing a careful inquiry into all the circumstances under which they occurred; and some points were specified which it would be interesting to consider. Amongst other things, it was important to note their duration and the most protracted interval which might elapse between dissolution and their commencement.

On the Origin and Diffusion of Cholera.

Dr. SIBSON resumed this discussion, and considered that hitherto no general and extensive view of cholera had been taken by any observer. He hoped, however, that one master-mind would eventually grapple with the entire subject, and throw some light on the very difficult question of the nature and origin of the disease. One point, it was true, we might put our hands upon, and that was the fact, fully shown in Dr. Webster's paper, that the disease made its appearance and continued its ravages during the prevalence of one particular kind of weather, and diminished as that weather disappeared. It was proved also that want of all kinds, and all depressing causes, favoured the spread of the disease. So far we could go, but still the primary cause of cholera was as mysterious as ever. We found it, for instance, at Moscow and St. Petersburgh during the intense cold season,

whilst at Paris it raged during the hot months. As to its origin and propagation by water, how could we explain by this cause the appearance of the disease in almost every part of England in one week? It was clear, from this fact alone, that water was not the only means of communication. Did the air act as a means of communication? It was curious if it did; yet we knew that the same state of air produced cholera and typhus, one at one time and one at another; but what cause produced the different result we did not know. He did not agree with Dr. Snow that the primary seat of the disease was in the mucous membrane of the intestines, for often the complaint set in with the greatest intensity without any intermediate stage of diarrhœa; and, on the contrary, diarrhœa of a very depressive character might exist, and yet no cholera supervene. It had been proved, however, by the researches of O'Shaughnessy and Garrod, that if the blood were not primarily affected, it became so in the course of the disease; for it had been shown that the blood contained matters which ought to have been thrown off by the secretions. That the blood was so affected was also evidenced by the effects of the injection of salines into the circulation when the patient was in a state of collapse. In his own experience this proceeding had always succeeded in rallying the patient; who died, however, eventually, if the secretion of urine was not restored, but lived when the means of carrying off the poison returned. With respect to Mr. Barlow's very interesting paper, he would remind the Society that muscular contractions after death were not confined to patients who had sunk from cholera. Dr. Blake had found that when he injected bismuth into the circulation, the muscles continued to contract after death, and Sir B. Brodie having carried on artificial respiration in a decapitated dog, it continued in motion for an hour and a half. He had produced the same effects also by injecting tobacco into the veins. The irritability of the muscles remained after the death of the brain and nervous system, and in cases of cholera manifested itself in the lower extremities first, as they were the furthest from the nervous centres; and as the nervous force diminished upwards, so the irritability developed itself towards the great nervous centres. In cases where poisons acted at once on the nervous system, more irritability of the muscles remained than when death was slower in its progress.

Dr. King had observed, in his labours as district visitor, that when, after the first rice-water evacuation, the patient had a "thin, raspberry-jam motion," he always died, but lived invariably when the motion was of the dysentric character. He thought the bodies found in the dejections were decayed epithelial cells. He regarded the diarrhœa as distinct from cholera, and at most a predisposing cause of that disease. He thought there were two distinct kinds of cholera—one where the collapse was immediate, and the other where the diarrhœa and vomiting first presented themselves.

Dr. Holland, of Manchester, said if the cholera depended, as some supposed, on the presence of organized bodies in a state of putrefaction in the water, we possessed a remedy for this in filtration. It had been proved that during filtration the changed bodies imbibed oxygen from the air. Thus nitric acid was formed; and this uniting with the salts in the water, an innocent soluble nitrate was formed.

Dr. James Bird said, that though ready to admit the affection of the intestinal mucous membrane to be prominently influential in the developement of cholera, yet he was of opinion, from a careful analysis of successive phenomena, that this was only a secondary and progressive effect of the lost vitality of the blood, and of that congestion which followed in the pulmonary and cutaneous capillaries. While the Society had there heard the lucid statements made as to the extreme fatality of the disease, and the difficulty of investigating its nature and origin, he was not one disposed to despair of seeing a more definite and successful system of treatment introduced, if the profession, instead of expecting to find specifics for a complicated malady, which admits of none, would only seek after well-established pathological facts from which might be ascertained, by induction, the laws that govern the phenomena of cholera, with the principles of a better therapeutic system. As to the propagation of cholera, whatever might be its origin, he had good grounds for thinking, with Dr. Lankester, that the disease was occasionally communicable from person to person, under favourable localizing conditions; and though he was not prepared to deny altogether the truth of Dr. Snow's views, that it could be multiplied through the medium of water impregnated with the poisonous dejections of cholera patients, he could not believe that such medium of communication had more than a partial effect in spreading cholera. He had now witnessed the endemic and epidemic outbreaks of this disease, in India, for a period of thirty years; and had come to the conclusion, that while endemic influences of low, damp situations, vegetable and animal effluvia, bad water, imperfect ventilation, and deficient food, acted as predisposing causes in giving rise to this intractable malady among the people, epidemic atmospheric constitution was necessary for its very general diffusion. The atmosphere is the principal channel by which cholera is disseminated, though the human recipient of the morbific miasm oc-

casionally becomes, as in yellow fever and influenza, a secondary agent in propagating it. That it was so propagated sometimes, even in India, he had every reason to believe. When cholera was prevailing at Tannah, in 1818, the soldiers of a confined, ill-ventilated barrack-room in the garrison were attacked by it, in succession, as they lay along side of each other on their beds; and here infection seemed to act a subordinate part in the diffusion of an epidemic disease not primarily infectious. Such, too, seems the nature of infectious yellow fever, arising out of endemico-epidemic fever of malarious countries, as that of Sierra Leone, where, as shown by Dr. Bryson's convincing evidence, the infectious fever which prevailed at different times on board her Majesty's ships, *Bann*, *Eden*, and *Eclair*, grew out of, as it were, the common endemic of the country. Cholera, moreover, in India, is admitted on all hands to attach itself to masses of the people assembled at religious festivals, and to be disseminated by them to persons previously free from it. In the extensive district of deep black alluvial ground, called the Southern Mahratta country, cholera, in 1841 and 1842, so invariably attacked the Madras regiments marching through it, that it came to be considered endemic to this part. It appeared to creep at this time from village to village, and was carried by bodies of religious pilgrims from district to district; yet, in the face of such strong characteristics of infectious disease, some have endeavoured to explain away the evidence by supposing that a specific poison, the essential cause of cholera, can lie dormant every where till accessory causes gave it activity; but when not propagated by human contact there is no satisfactory evidence to prove that this disease has any other source than a malarious and epidemic origin. He would only make one more remark on the subject of the disease, becoming transmissible, under favourable conditions, from the sick to the healthy—namely, that having observed how cholera continued prevalent among the men and followers of native regiments attacked by it on their march, and allowed, immediately after arrival at a new station, to occupy the regimental lines of native mud huts, he recommended to the general commanding the division that all such infected regiments should be encamped in some dry and healthy locality outside the cantonment, till all traces of the disease had disappeared, after which they were allowed to occupy the regimental huts. This precaution was followed by the happiest results; for after its adoption, the men and followers of regiments which had suffered from cholera on the march were altogether exempt from it in the lines. A combination of conditions may be necessary for the development of infectious cholera, but that it is not frequently self-multiplying in the human body seems an assumption contrary to fact.

The Bodies found in Cholera Evacuations.

Dr. Lankester said that Dr. Snow's theory of the progress and development of cholera involved the necessity of its being something generated in the mucous membrane, and capable of being diffused by handling, and especially through drinking-water. It was not more unlikely that the mucous membrane in cholera should produce a poison, than that the skin should in small-pox. No such poison had, however, yet been demonstrated to exist, and the only approach to it was the announcement of the presence of fungi in the evacuations and vomited matters of cholera patients, more particularly mentioned by Dr. Swayne. These bodies might be divided into two classes—the definite and indefinite. The latter consisted of all the bodies found in the air and the water, and which were probably organic substances of various kinds, and the smaller bodies from the evacuations and the vomited matters of cholera patients measuring from the 1-1000th to the 1-10000th of an inch in diameter, and which consisted of various organic and inorganic matters. The definite bodies were such as those exhibited by Dr. Swayne at the last meeting of the Society; they were probably from the 1-300th to the 1-1000th of an inch in diameter. Amongst these bodies, his friend, Mr. Busk, had succeeded in making out three forms. First, there were spores of a species of uredo—a fungus which produced smut in corn, and was often found in bread. These bodies appeared to be only drawn in Dr. Swayne's illustrations. Secondly, portions of vegetable membrane, of a dark colour, which resembled the membranous portions of a grain of wheat, and which were seldom absent from the finest flour, but were very abundant in the coarser kinds. Und r a high magnifying power and deficient light, these bodies resembled the last. The third form of these bodies resembled starch granules. The two last bodies were evidently not independent organisms. He had examined Mr. Busk's preparations, and compared them with those of Dr. Brittan and Dr. Swayne, and he felt convinced of the correctness of Mr. Busk's inference, that no new organism had yet been demonstrated to exist in the body of those affected with cholera. All the bodies that had been observed by the microscope were evidently introduced by the food or were the natural products of the mucous membrane. He thought we must look in some other direction for the poison of the cholera.

Dr. Webster and Dr. Snow having replied, the Society adjourned.

Medical Trials and Inquests.

THE ALLEGED CASE OF MANSLAUGHTER BY A HOMŒOPATHIC MEDICAL STUDENT.

CENTRAL CRIMINAL COURT.

Saturday, October 27th.

CHARLES THOMAS PEARCE, medical student, surrendered to take his trial for manslaughter.

A bill had been preferred before the grand jury for the same offence, but they threw it out, and the defendant was now arraigned upon the coroner's inquisition. It alleged that on the 9th of September, 1849, one Richard David Pearce was sick and ill, and unable to attend to his usual labour and business, and that defendant, being a student of medicine, while he was so sick and ill and unable to attend to his labour, did unlawfully and feloniously, upon the said 9th of September, and on divers other days, assault the said David Richard Pearce, and unlawfully refused to allow him, and prevented him, from having sufficient food and victuals for the nourishment of his body, it being his duty, as such medical adviser, to have allowed him sufficient food and nourishment, and for want thereof the deceased became mortally sick and distempered, and died; and that the defendant, by the manner and means aforesaid, did feloniously kill and slay him.

Mr. Horry was for the prosecution; Serjeant Wilkins, Mr. Clarkson, and Mr. Parry, were for the defence.

Mrs. Pearce said—I am the widow of the deceased, and the defendant is his brother. My husband was attacked by cholera on the 8th of September, and a medical gentleman named Harris was sent for, and he attended him, and saw him three times on that day, and sent medicines for him. Mr. Harris continued to attend him until Sunday evening, the 9th, and the next day the defendant came and took charge of him, and continued to do so until Wednesday following, when Mr. Davis, another medical gentleman, was called in. From the Monday to the Wednesday the defendant ordered that his brother should not have anything but cold water and medicine, and I gave him nothing but what he ordered. Mr. Gobrey, another medical man, was called in on Thursday, the 13th, and he prescribed medicine for my husband. My husband died on the 18th.

By Serjeant WILKINS.—I have known the defendant ten years, and I believe for the last five he has been studying medicine, and I have heard that he has given lectures upon the physical sciences at University College, and that he had attended the lectures of several eminent medical men. My husband had some arrow-root on the 11th, but he vomited it up, and I afterwards gave him some weak gruel. The deceased wished to see his brother, and he was sent for in consequence. The defendant ordered gruel for the deceased on Tuesday, and told me to give it him two teaspoonfuls at a time. The defendant, I believe, was himself attacked with cholera on the 13th, and Mr. Gobrey then attended my husband till his death.

Serjeant WILKINS submitted that this evidence put an end to the case.

Mr. Justice MAULE said he supposed there would be some evidence that the death was the result of the abstinence on the Monday and Tuesday.

Mr. RICHARD HARRIS said—I am a surgeon, and was called on to attend the deceased on the Sunday. I found him suffering from malignant cholera, and in a very critical state. I saw him three times during the day, and in the evening, although I considered he had somewhat rallied, yet he was in a very dangerous condition. Having heard that the deceased had a brother in the profession, I wished to see him, in order that we might have a consultation upon the case, and the defendant was introduced to me, and after some conversation he said that as everything had been done that could be under the old system, he should like to try the effect of the homœopathic system, and I consented to give up the case to him. I saw the deceased on the day after the defendant had taken the charge of him, and he appeared considerably relieved, and reaction had taken place. The following day the deceased was not quite so well, and I did not see him again until the day before his death.

By Sergeant WILKINS.—When I saw the deceased the first time the disease appeared to me sufficiently urgent to have caused his death.

Mr. Justice MAULE.—Did you observe anything which induced you to believe that the defendant had acted improperly in the case?

Witness.—I did not.

Mr. Justice MAULE.—Would it be a proper course in the case of a cholera patient who was in a state of collapse to give solid food, or would the bowels be in a condition to receive it?

Witness.—He could have had liquid food.

Mr. Justice MAULE.—Why do you not answer the question? Would it be proper to give solid food?

Witness.—No.

Mr. Justice MAULE.—Then why don't you say so. You might as well have said he could have put on a clean shirt, as the answer you formerly gave.

The Jury said they were quite satisfied there was no evidence to support the charge.

Mr. Justice MAULE.—How any man could be found to say that this defendant was guilty of manslaughter I cannot conceive. It appears that he was called in in a desperate case, and that he did everything it was possible to do under the circumstances.

Sergeant WILKINS said he believed the real fact was, that this indictment was merely an attack upon the homœopathic system.

A verdict of *Not Guilty* was then taken, and the defendant was at once discharged.

Correspondence.

ON THE ACTION OF THE ILEO-CÆCAL VALVE.

SIR,—If it will not be unnecessarily occupying a space in your journal, perhaps you will allow me an opportunity of replying to some remarks in your last number, by Dr. Brinton, respecting my communication "On the Action of the Ileo-cæcal Valve in Stercoraceous Vomiting," which you did me the favour to insert on Oct. 12th. Dr. Brinton remarks that the explanation given by me is substantially the same as one he had published in a former number of the MEDICAL GAZETTE, July 13th, 1849. He further says the following quotation from his essays both explains the open condition of the valve in the same manner as myself, and adduces a very familiar but exact parallel. The following is his quotation:—"And we are no longer at any loss to comprehend how an occlusion of the large intestine returns its contents into the small intestines, and causes fæcal vomiting; since the preliminary dilatation would produce a patulous state of the ileo-cæcal valve in all respects identical with that seen in the inflated and dried preparation of this part."

Now, sir, in the above quotation, *dilatation* is the essential cause given by Dr. Brinton in explanation of the open state of the valve; from which it may be inferred that the calibre of the intestine becomes too much increased to admit of being closed by the valve, an opening being left between the free edge of the valve and the opposite wall of the bowel, constituting the patulous condition of the valve.

Such seems to be the correct interpretation of Dr. Brinton's explanation; but, if compared with my own, it will not appear "substantially the same," but *essentially different*, as I have not assigned to *dilatation* any agency, but have regarded *counter-pressure* from above, caused by accumulation in the small intestines, as the essential cause of inactivity of the valve; the pressure from below, which produces the valvular efficiency, being neutralized by the *counter-pressure* above. Regurgitation through the valve is an admitted fact, and it may perhaps be considered frivolous to argue further; but regurgitation is not the point at issue: it is the *mode* of its occurrence. The *manner* in which a contrivance so perfectly mechanical has its operation suspended, and permits the very occurrence it is intended to obviate, is required to be explained. With regard to Dr. Brinton's remark respecting the limitation of stercoraceous vomiting to the large intestine, it was not a "casual oversight:" my only object was to consider the mechanism of the valve, and I had therefore to take a point below it, but did not necessarily limit stercoraceous vomiting to occlusion of the large intestine alone.

In conclusion I must observe, I had never read Dr. Brinton's Essay. The remarks you did me the honour to publish were, without any hint or suggestion, the result of reflection on my own observations.

I cannot help feeling that Dr. Brinton may imagine an attempt has been made to arrest from him the merit of originality on this point. Such I assure him is not the case; but of this perhaps he will be convinced when he discovers that we differently explain the same fact.—I am, sir,

Your obedient servant,
GEORGE ROPER.

23, Soho Square,
Oct. 29, 1849.

THE CHOLERA AT SWANSEA—REMARKS ON DR. T. WILLIAMS' COMMUNICATIONS.

SIR,—I am induced to ask the insertion of the few following remarks on the papers of Dr. Thos. Williams, of Swansea, which appeared in the respective numbers of your journal of the 5th and 12th of this month. Those portions of his statements which I believe to be fallacious not having been corrected by himself, as they should have been long ago, I take upon myself to point out that which is, in my opinion, erroneous, or requiring explanation. The following is an extract which appeared in your journal of October 5th:—On the 10th of July of this year, a solitary case of cholera occurred in this town, which proved fatal, and which was attended by Mr. Rowland and myself; it was a case imported from Shields. The discharges, which were quite characteristic, I submitted to careful microscopic and chemical examination. The singular polygonal confervoid bodies, of which figures accompany the present communication, were *then* clearly and repeatedly demonstrated and witnessed by my friend Mr. Rowland. Faithful sketches of the objects which then arrested my attention by their singularity, and which

contrasted so strikingly with the prismatic epithelium of the intestinal mucous membrane, were at the moment made in my note-book. Early in the month of August the cholera rushed upon us in this town with great suddenness and virulence, and opportunities became abundant for testing what I had conceived on the 10th of July to be a *new fact* in the pathological history of cholera."

By the kindness of Mr. Rowland, opportunity was afforded me, in common with other gentlemen, to visit this "imported case from Shields," the patient having been taken to a house in Butter Street, in this town, and the following document from the registrar of the district, Mr. Collins, will show when the case occurred,—certainly not on the 10th of July:—

"The case of cholera which occurred in Butter Street was reported by me on the 21st October, 1848. I have no particulars of the case, but Mr. Rowland can give them."

It is here evident that a very serious error of date, although perhaps on his part quite unintentionally, has crept into Dr. Williams' note-book.

Again, Mr. Rowland has informed me, as well as others in the town, that these "singular polygonal confervoid bodies" were not only not "*then*" (the italics are Dr. Thos. Williams') clearly and repeatedly demonstrated and witnessed by him, but that he never even heard of them until Dr. Williams had sent off his communication to the GAZETTE, at which time Mr. Rowland informed Dr. Williams that Dr. Williams had committed an error in saying he had so seen them, and he then pointed out the error in date of the occurrence of the case. At the same time it does appear strange that no information of post-mortem examinations made and observed on by Dr. Thos. Williams during the past yea, should have reached any members of the profession at Swansea, and that the officials connected with the sanitary board who superintended the burial of every fatal case of cholera should positively state that no post-mortem examination had been made; and although open to conviction or proof to the contrary, I am not singular in believing that no such case has been so examined within the last twelve months, either by Dr. Thos. Williams or any other practitioner in the town.

There is yet one other point I cannot allow to pass uncorrected, as it has important bearings on the questions of the contagiousness of cholera. Dr. Thos. Williams states: "early in the month of August the cholera rushed upon us in this town with great suddenness and virulence." Instead of this being the case, cholera had occurred in a few isolated cases in the beginning of July; was epidemic at the Swansea gaol from July 6th to nearly the end of the month, and gradually from the 20th of July (when the first case, not imported, occurred in the town) increased in severity, in my own practice alone; no less than eighteen fatal cases having occurred between that date and the first day of August.

I believe, sir, that these are circumstances requiring full and perfect explanation, and I am not without hope that Dr. Thos. Williams will be happy to avail himself of an opportunity thus afforded him of putting himself right with his brethren in the town, and the profession generally, by explaining these seeming difficulties and inaccuracies.

Your obedient servant,

W. H. MICHAEL, Surgeon.

Swansea, Oct. 26, 1849.

Medical Intelligence.

"REPORT OF THE CHOLERA COMMITTEE OF THE ROYAL COLLEGE OF PHYSICIANS, ON THE NATURE AND IMPORT OF CERTAIN MICROSCOPIC BODIES FOUND IN THE INTESTINAL DISCHARGES OF CHOLERA.

"WE propose in this report to lay before the committee the results of some experimental inquiries on a subject which, within the last few weeks, has engaged much of the attention of the profession. We allude to the discovery by Mr. Brittan and Mr. Swayne, of Bristol, of peculiar bodies in the 'rice-water' dejections of cholera patients, and to the statement that similar bodies have been found by Mr. Brittan in the atmosphere, and subsequently by Dr. W. Budd in the drinking-water of infected localities.

"These observations, on account of their important bearing, if true, on the pathology of cholera, seemed to us to demand a searching examination. We have accordingly given much time and attention to the subject. Having, in the first place, satisfied ourselves of the distinctive characters of the bodies found in the rice-water dejections, we next sought to verify the observations of Mr. Brittan and Dr. Budd with reference to their presence in the air and drinking-water of places infected with cholera. It was necessary that this part of the inquiry should not be delayed; for the epidemic had already reached its turning point, and it would, before long, have been difficult to obtain favourable opportunities for experiments of a satisfactory character.

"Our inquiries were afterwards directed to the nature and properties of the newly-discovered corpuscles, and to the question of their occurrence in other diseases. In

this investigation, we soon perceived that objects totally different had been regarded as identical; but we had arrived at no positive conclusion respecting those which seemed most characteristic of the cholera evacuations, when we received two important communications on the subject from Mr. Marshall and Dr. Jenner.

"Our observations on the air and drinking-water of infected localities, 25 in number, gave uniformly negative results. With regard to the value of our experiments, taken separately, it will, we think, appear that many are liable to no objection. Some of those which relate to the drinking-water of infected places are certainly wanting in the conditions which would make them convincing. But when it is considered that Dr. Budd believes he has detected the objects sought for, 'in great numbers,' in such large bodies of water as the Float at Bristol, and the Surrey Canal, and that he represents them as being deposited in the sediment of the water, we shall not be thought unreasonable in having expected that they might be discovered in the cisterns of houses and public institutions in which cholera had prevailed severely, although it had ceased there for some days or weeks.

"Nevertheless, a much larger amount of evidence would have been required to disprove the statements to which our observations refer, had those statements been unassailable from other points. But the facts to be detailed in the subsequent part of this report will show that the bodies found in the rice-water dejections have no peculiar relation to cholera; and that, if they should occasionally be present in the atmosphere, or impure water, this will not happen exclusively, or even especially, in districts infected with the epidemic.

"We shall now submit the particulars of all the observations to the Committee, describing first those on the air.

"*Microscopic observations on water condensed from the atmosphere of infected localities.*

"Two methods were employed for condensing the aqueous vapour. One was, to suspend in the air to be examined a glass funnel, nearly filled with a freezing mixture, its lower opening having previously been closed by a cork and covered with sealing-wax. The moisture condensed on the outside of the funnel trickled into a small phial placed beneath. The second method was to force air slowly, by means of bellows, through a bent glass tube immersed in ice and salt, when the moisture was deposited on the interior of the tube, and collected in a bulb at its lower part. In either way from half a drachm to a drachm of water was readily obtained.

"The water condensed from the air in the several localities, and under the circumstances we have described, was in each case examined by us more than once. But the search for annular bodies, such as those found in the cholera dejections, failed, as we have already intimated. Neither cells, nor rings, nor anything bearing a resemblance to them, could in most cases be discovered. We saw merely portions of gelatiniform matter containing bright points—sometimes finely granular brownish masses perhaps derived from smoke — and occasionally colourless, transparent particles, of a crystalline appearance, which may have been portions of silicious dust. After the water had been kept some time, chains of delicate oval vesicles, like those of the torula of yeast, but much smaller, appeared in it. These were absent at first, and could not be mistaken for the cholera discs. Equally unlike those discs were the three or four separate oval cells, which, in two instances, were seen in the water when first examined. They had a clear, single outline, and were not flattened.

"The uniform result of these experiments, as of the former series, was negative. No bodies were found which could be regarded as identical with the more characteristic of those discovered by Messrs. Brittan and Swayne in the rice-water dejections of cholera. The objects met with were far more numerous than those seen in the moisture condensed from atmosphere. The sediment, when viewed with a 1-8th inch object glass of Ross, or 1-16th inch object glass of Powell and Lealand, presented, besides amorphous matter, an almost endless variety of organic forms, both animal and vegetable. Amongst these were many round or oval cells, of various dimensions, and some separate rings of minute size, colourless, and pellucid. The cells had generally very delicate walls and a clear cavity, were never flattened, and often contained a multitude of distinct granules, which, in some instances, presented the molecular motion. Like the rings, these cells were obviously different in their nature from the thick-edged discs which the descriptions and drawings of Messrs. Brittan and Swayne and Dr. Budd had led us to regard as the characteristic corpuscles of the cholera evacuations.

"The negative results of our research in the atmosphere of infected places for objects identical with those just referred to are confirmed by some observations communicated to us by Mr. Marshall. While cholera was prevalent in St. Giles's, he examined the dirt washed from the broken glass of windows, and from cobwebs taken from houses in that district, in which deaths had occurred from four to ten days previously. With a 1-12th inch or 1-8th inch object-glass, he found a vast number of objects, such as

particles of silex and soot, hairs, wings, and legs of insects, round and oblong cells of a brownish colour, very dark spherical granular masses, probably of a confervoid nature, and fragments of vegetable tissue, amongst which were pieces of spiral tubes, and entire rings, apparently of woody tissue, of an oval, polygonal, or circular form. But he detected no discs with double outline. A microscopic examination of the objects collected on a moist surface from the atmosphere of sewers, gave Mr. Marshall a similar negative result with regard to those discoid bodies; although he found (besides fine particles of silex and other dust) brown, oval, and round cells, single, and in couplets, minute colourless vesicles, either single, double, or in triplets, a single large oval cell, and numerous opaque granular confervoid bodies, of a brownish or blackish green colour.

"*Microscopic observations on the 'cholera fungi.'*

"We next proceed to show how various are the bodies which have been confounded together under the terms annular bodies (Mr. Brittan), cholera cells (Mr. Swayne), and cholera fungi (Dr. Budd).

"On examining the drawings given by the three gentlemen who have called attention to the subject, four principal forms, which can hardly belong to the same objects, may readily be distinguished.

"1. Rings, which enclose a free area, and which often are broken. These are usually of a minute size, but are occasionally large.

"2. Globular, or oval cells, chiefly of the middle size, which have a thick wall with numerous small eminences on its surface, and contain a granular mass, in some instances separated by a clear space from the wall of the cells. These are distinctly figured only by Mr. Swayne, but are regarded by him as perfectly developed cholera cells.

"3. Bodies having apparently the form of discs, with thick rounded edges, and centres of instinct structure. These vary extremely in size, including some of nearly the smallest, as well as many of the largest, of the objects represented by the three observers. They predominate in all the representations given of the corpuscles of the rice-water dejections, and must be taken as the type of the bodies discovered by Messrs. Brittan and Swayne.

"4. Large broken cells, having apparently homogeneous membranous walls, and containing small, well-defined, oval bodies; figured by Dr. Budd as cholera fungi undergoing decay, but differing in character from all the other objects represented.

"A mere inspection of these different figures would suggest strong doubts as to their representing different appearances of really identical bodies in different states or stages of development or decay. The more particular description we have now to give of each kind of body will demonstrate that they are of various and distinct nature.

"1. The rings, when closely examined, are seen to be of different kinds, some perfectly continuous in their entire circle, others formed by a curled fibre; some round, some oval, others lozenge-shaped. Some of these have been traced to their true source by Mr. Marshall, who has found that exactly similar objects may be prepared by the artificial digestion of the vegetables used as food; such as cabbages, potatoes, and onions, the withered style of wheat grain, and portions of cane in sugar; the spiral and annular tissues of which break down into rings of different sizes, or coils resembling rings.

"Intermediate between these and the third class of bodies are minute oval, or round, colourless corpuscles, which have an annular appearance; but, on a close inspection, are seen to have their area filled up with a transparent substance presenting sometimes perforations. In some specimens of the rice-water fluid, oval bodies, in part having their middle filled up, as here described, and in part mere rings, exist in extraordinary abundance. The rings of these bodies have been observed by Mr. Busk and Dr. Griffiths to be divided by cross-lines into segments, which Mr. Busk thinks are bead-shaped,—an appearance which had occasionally been noticed by ourselves, as well as by Mr. Marshall. They are calcareous structures, originally derived from chalk, in which they abound; and they have been introduced into the contents of the intestines with the medicines (chalk-mixture, aromatic confection, &c.) which the patients have taken.* These minute bodies from the

"* It is right to state how we arrived at the knowledge of these facts. Dr. Griffiths has pointed out to us that the bodies in question are heavy, polarize light, and are soluble in dilute nitric acid. He suspected that they were oxalate and phosphate of lime. Mr. Marshall subsequently showed us that acetic acid also dissolves them readily, and that sulphuric acid acts on them, producing needles of sulphate of lime. Having ourselves found the same bodies in the evacuations of two patients suffering from typhoid fever, we were examining them in company with Dr. Griffiths and Mr. Marshall, when the demonstration of their calcareous nature reminded us of the fact, that these patients had been taking medicine containing chalk, and, at the same time, brought to our recollection the remark made to one of us by Mr. Topping, that Mr. Brittan's 'annular bodies' were to be found in chalk-mixture. Accordingly, we examined a portion of medicine containing aromatic confection, and afterwards a piece of common chalk, and in both found the bodies described above, though not the larger discs, which are also found in the rice-water fluid."

chalk are, of course, not found in all cases; and we may think it not unlikely that, in their absence, the separated nuclei of animal and vegetable structures, as well as the vegetable rings above described, may sometimes have been mistaken for fungi. The microscopic bodies from chalk are, however, the most striking in their characters; and, we believe, are those which have been chiefly regarded as representing the first stage of the cholera fungi.

"The brown globular bodies, with tesselated surface and thick wall, have been clearly identified by Mr. Marshall with the spores of different kinds of uredo, the rust, smut, and bunt of grain; some species of which may be found, not only about the withered style or grains of wheat, but also in almost every specimen of corn and bread. Mr. Busk has made the same observation, and identifies them with the uredo segetum, or bunt.

"Discs, with thick, elevated, and somewhat irregularly-formed margins; the central area flattened, and obscurely granular. They have generally a yellowish or pale brown tint, which varies in depth with the colour of the fluid containing them. These are the most peculiar of the bodies found in cholera, and differ from the rest in being more or less soluble in ether. Mr. Marshall, who first informed us of this fact, found that the smaller discs undergo nearly complete solution, leaving a cavity in the dried mucus, whilst the larger ones leave a fine granular film. They are apt to break across, and the thick margin to curl inwards. They are evidently not cells, nor have they any organized structure which could give them any claim to be regarded as living organisms. On the other hand, their solubility in ether shows that they consist, in great part, of some substance of the class to which the fats, resins, and saponaceous matters belong. This observation led Mr. Marshall to examine different fatty substances, and at length to find that curled concretions, not unlike the discs found in cholera, could be obtained by compressing a piece of rich cheese (with or without the addition of ether) between two plates of glass. We are not yet able to account for the origin of these peculiar discs. Mr. Busk regards them as altered starch grains. It is, at all events, certain that they are not fungi, and, as we shall afterwards see, that they are not peculiar to cholera.

"Besides these fatty discs there are sometimes met with yellowish bodies, which might easily be confounded with them, but which are merely rendered more pellucid by ether. Bodies of similar character have been shown by Mr. Busk to arise from a disintegration of the bran of wheat, and Mr. Marshall has independently made the same observation.

"Under the fourth class of bodies, we refer to those represented by Dr. Budd as the cholera fungi undergoing decay and disintegration. They are evidently of a different nature from those figured by him as characteristic of the fresh cholera dejections. The mode of disintegration of the two classes of bodies is quite distinct: the so-called cholera bodies, after resisting the action of water for some time, break up into irregular granular masses; whilst the decomposing bodies depicted by Dr. Budd seem to be in part homogeneous, membranous cells, dehiscing, and are perhaps starch-cells. The rings are most probably parts of disintegrate vegetable tissue.

"It is shown by Mr. Marshall, and had before been noticed by Boehm and others, that cells like fungi, or their spores, are occasionally found in the excretions in cholera. These, however, have a more delicate structure than any of the bodies described as characteristic of cholera, and are totally different from them. It is well known that various vegetable forms are apt to become developed in organic fluids generally.

"From a review of the foregoing facts, it is obvious that various bodies found in cholera dejections have been confounded, and described as identical. It is also shown that many are traceable to an extraneous source, and that even the discs placed in our third division are not fungi. The statement that the bodies found in the cholera dejections present an endogenous multiplication has, in all probability, arisen from confounding them with the uredo, or from mistaking the appearances produced by the small bodies seen through, or upon, the larger ones, or entangled in their substance.

"We are unable to identify the rings obtained from the air, and figured by Mr. Brittan, with any of the bodies included by him under the term 'annular bodies.' Our own experiments have satisfied us that these bodies do not commonly exist in the atmosphere of infected places; but the observations of Mr. Marshall, on the dirt collected from windows and cobwebs, show the great variety of matters which must be wafted about in the air, in the form of dust, and which might, in different instances, be caught with the condensed moisture.

"The bodies represented by Dr. Budd as being found in impure drinking-water, have the form of discs with thick edges. We have ourselves never seen such bodies in water. But when it is remembered that the contents of bran-cells sometimes assume that form, the occasional presence, in water, of bodies capable of being confounded with the discs derived from the discharges of cholera will not appear remarkable.

"Had the bodies described by Messrs. Brittan and Swayne been proved by the fore-

going investigations to be of fungoid nature, yet the facts we have now to add would have shown that they have no necessary connexion with cholera. In the first place, they seem not to be constantly present in the discharges. It is, indeed, remarkable that, in those dejections which, from the absence of colour, have usually been regarded as the most characteristic of the disease, they are frequently absent. We have failed to find them in several instances. In one a portion of every evacuation was set apart, and examined several times by each of us, and yet in neither portion could we detect them.

"A still more important fact, which, from the explanations already given, might be anticipated, is, that all the more remarkable of the bodies which have been thought peculiar to cholera exist in the intestinal evacuations of persons affected with other diseases. Dr. Jenner first demonstrated to us their presence in great abundance in the dejections of a patient affected with typhoid fever. We have since verified his observation in five other cases of this disease. We have also satisfied ourselves of the existence of some of the forms in dejections apparently healthy, from two patients in Guy's Hospital, one suffering from bronchitis, the other from early cirrhosis of the liver; and Mr. Marshall has detected small annular bodies 'in the mucus covering the healthy excrement' of several herbivorous animals. It is obvious that bodies derived from such various sources will not commonly be found all present together. This, indeed, is not the case in cholera. And it is also clear that those belonging to chalk will very rarely be met with, except that substance has been taken as medicine.

"We shall now briefly restate the principal results we have arrived at, and submit the conclusions which seem to us justified by them.

"1. Bodies presenting the characteristic forms of the so-called cholera fungi are not to be detected in the air, and, as far as our experiments have gone, not in the drinking-water of infected places.

"2. It is established that, under the term 'annular bodies' and 'cholera cells or fungi,' there have been confounded many objects of various and totally distinct natures.

"3. A large number of these have been traced to substances taken as food or medicine.

"4. The origin of others is still doubtful; these are clearly not fungi.

"5. All the more remarkable forms are to be detected in the intestinal evacuations of persons labouring under diseases totally different in their nature from cholera.

"Lastly. We draw from these premises the general conclusion that the bodies found and described by Messrs. Brittan and Swayne are not the cause of cholera, and have no exclusive connection with that disease; or, in other words, that the whole theory of the disease which has recently been propounded is erroneous, as far as it is based on the existence of the bodies in question.

"Wm. Baly, M.D. } Cholera
"Wm. W. Gull, M.D. } Sub-committee."

THE CHOLERA AT MANCHESTER.

It is gratifying to be able to state that the cholera, although not quite extinct, is rapidly disappearing from Manchester. A few fatal cases occurred during the past week, principally among young children, and chiefly from diarrhœa. Continued attention is shown by the authorities to the condition and wants of those who have been suffering from illness; but the demands on the care and skill of the medical officers are daily diminishing, and in a very short time their services will be altogether dispensed with. Reports announcing the gradual disappearance of the disease have been received from nearly all the surrounding towns and villages, including Stockport, Bolton, Ashton-under-Lyne, Rochdale, Bury, Oldham, Macclesfield, and Warrington. In most or all of these places the medical officers engaged in attending to cases of cholera and diarrhœa have been relieved from their harassing duties, and the parochial officers are instructed to report promptly in any case that may occur.

ALDERSGATE STREET DISPENSARY.

In reference to an announcement which recently appeared in this journal, we are requested to state that Mr. Samuel Solly has not resigned his connection with this institution, but that he has accepted the appointment of Consulting Surgeon.

OBITUARY.

MR. JOHN LOFTUS HARTWELL.

On the 12th of June last, at Sidney, New South Wales, after a few days' illness, John Loftus Hartwell, Esq., Staff-Surgeon, 2d class.

MR. THOMAS MORTON.

We regret to announce the death of Mr. Thomas Morton, which took place suddenly on the morning of the 30th ult., at his residence, Woburn Place, Russell Square. Mr. Morton was in the 36th year of his age; he was deservedly well known to the medical profession by his contributions to the advancement of medical science. The lamented deceased succeeded the late Mr. Cooper, the author of the *Surgical Dictionary*, as surgeon to the Queen's Bench Prison, and at the time of his decease held

also the appointment of surgeon to the University College Hospital. Mr. Morton was admitted a member of the Royal College of Surgeons on the 24th of July, 1835, and in 1843 he was elected by the Council an honorary fellow of the institution. Mr. Morton leaves a widow, the only daughter of the late Mr. Samuel Cooper.

MR. CALEB WOODYER.

On Monday last, at his residence, Guildford, Surrey, Mr. Caleb Woodyer, in the 84th year of his age. Mr. Woodyer studied his profession at Guy's Hospital, and was the early associate and friend of the late Sir Astley Cooper, Mr. Cline, Dr. Babington, and other eminent men connected with the Borough Hospitals. As a general practitioner he had acquired great repute, and was highly esteemed by the profession in the County of Surrey. He had for some years withdrawn from general practice.

He was elected a fellow of the Royal College of Surgeons in 1843, and at the time of his death was, we believe, the oldest member of the College, having received his diploma about the year 1790.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·86
" " " Thermometer[a] ..... 55·
Self-registering do.[b] .... Max. 0·0 Min. 35·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·19 — Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 6°.1 *above* the mean temperature of the month.

BIRTHS & DEATHS in the Metropolis

During the Week ending Saturday, Oct. 27.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	686	Males....	442	Males....	583
Females..	642	Females..	460	Females..	579
	1328		902		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	902	1162
Specified Causes	902	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	229	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	36	49
3. Brain, Spinal Marrow, Nerves, and Senses	108	125
4. Heart and Bloodvessels.....	41	40
5. Lungs and organs of Respiration	132	214
6. Stomach, Liver, &c.	58	65
7. Diseases of the Kidneys, &c.	11	11
8. Childbirth, Diseases of Uterus, &c.	16	10
9. Rheumatism, Diseases of Bones, Joints, &c.	6	8
10. Skin.....	2	1
11. Old Age	39	57
12. Sudden Deaths.....	8	12
13. Violence, Privation, Cold, &c....	32	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	7	Convulsions.....	41
Measles.....	20	Bronchitis	50
Scarlatina	33	Pneumonia	61
Hooping-cough	16	Phthisis	97
Diarrhœa.....	42	Lungs	8
Cholera.....	25	Teething	8
Typhus.....	52	Stomach	5
Dropsy	8	Liver.....	11
Hydrocephalus	25		
Apoplexy	25	Childbirth	9
Paralysis	17	Uterus.....	6

Remarks.—The total number of deaths was 260 *below* the weekly autumnal average. The deaths from Cholera are reduced to 25, and are only 17 above the autumnal average.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

(The List will be given in our next No.)

NOTICES to CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Improved Caustic Case.—We have received from Mr. Buckle, 140, Leadenhall Street, an improved Caustic Case. It consists of a small ivory case enclosing a glass tube which holds the lunar caustic. We can recommend it as well adapted for the purpose intended, *i. e.* of enabling the practitioner to carry about with him a stick of caustic with convenience and safety.

Mr. Swayne.—We have not inserted the letter received in substitution for one sent for last week's publication, because we have thought it advisable that our correspondent should first have the opportunity of reading and considering the Report of the Cholera Committee of the Royal College of Physicians in reference to the Fungoid Theory of Cholera.

Mr. C. Beckett's third communication on the treatment of Cholera has reached us. It shall have early insertion. We shall be glad to receive papers from our correspondent at any future time.

Dr. Ogston, Aberdeen.—We have to apologize for the great delay which has taken place in the insertion of the medico-legal report of the case of the woman Conlie. It will be published next week. In the meantime we are prepared to receive a report of the other case promised by our correspondent.

Collins's Patent Disinfecting Powder.—We have received a bottle of this powder, and have submitted it to various trials. It may be regarded as very pure chloride of lime containing a large proportion of chlorine. It possesses great power of decomposing foul effluvia, whether diffused in the air or contained in solid and liquid matters undergoing decomposition.

The letter of Mr. A. G. Field will be inserted in the following number.

Dr. Frayer, Queen's County, Ireland. — The communication on Diarrhœa shall have early insertion.

Dr. Routh's report is unavoidably postponed.

Corrigenda. — In Mr. Campbell's paper on Uterine Hæmorrhage, last No. page 732, col. 1, 14 lines from foot, for "post-mortem," read "*post-partum.*"—Col. 2, line 14 from head, for "marked," read "remarked." After Mr. C.'s name, for "F.R.C.S.E." read "M.R.C.S. Eng."

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXX.

AMPUTATION OF THE LOWER EXTREMITY.

Amputation of the leg—preliminary considerations—different methods of performing this operation. The circular method—preparation and position of the patient—steps of the operation. (Figs. 1 and 2.) *Amputation of the leg by forming posterior flaps. Amputation immediately below the tuberosity of the tibia. Amputation of the thigh best performed in the lower third of the thigh. Different methods—circular method—arrangement of the patient and position of operator. Steps of the operation—treatment of the stump.* (Fig. 3.)

Amputation of the thigh by the flap method—plan of procedure—precautions to be observed. (Fig. 4.) *Amputation at the hip-joint—important character of the operation—description of the operation.* (Fig. 5.) *Modification of this operation.* (Fig. 6.) *Cases.*

AMPUTATION OF THE LEG.

One of the chief considerations in the amputation of the leg refers to the choice of the part through which the section should be made; for although the limb may be removed in any part of its length, the great object is to leave a stump of the most convenient length; and with this view perhaps the amputation through the upper third of the leg is the best, as it enables the patient to rest his knee on an artificial leg without having the deformity of a long projecting stump, which is always a source of great inconvenience. The amputation at the upper third of the leg should, in my opinion, always be chosen for those who will be afterwards obliged to make much use of the limb; but for persons in a higher class of life, especially in females, where there may be anxiety to conceal the defect by an artificial limb, the longer the stump—or, in other words, the lower the amputation is performed, the better—as the facility in the adaptation of the mechanical apparatus will be so much the greater.

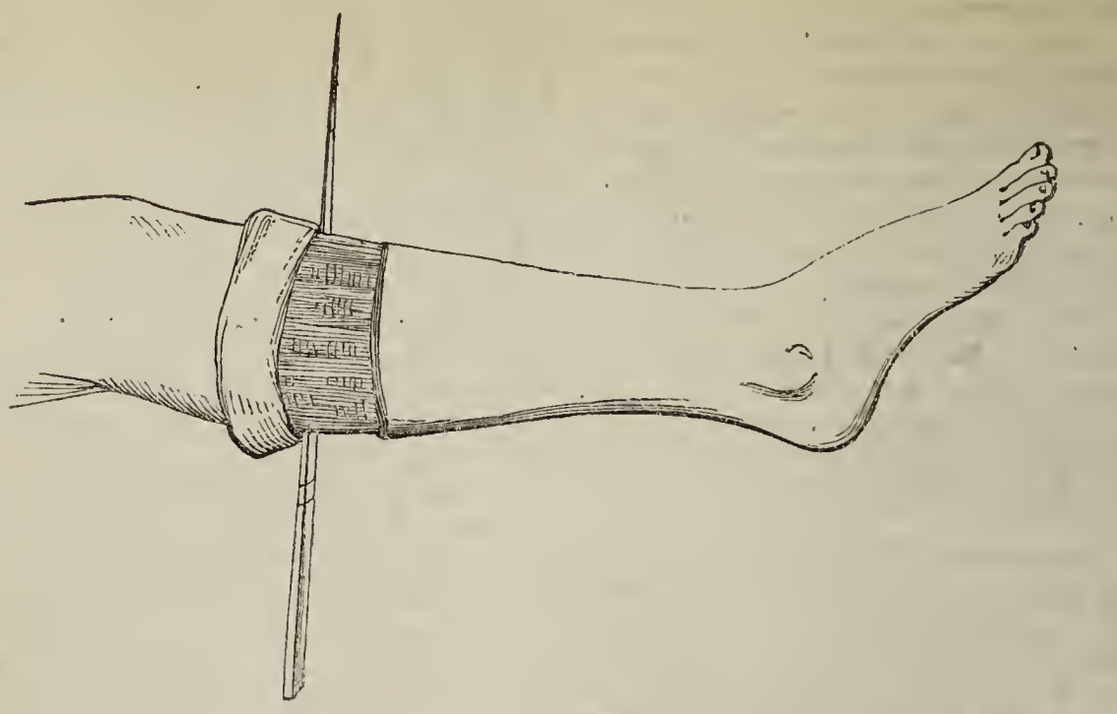
Differences of opinion exist as to the method by which the amputation should be effected—whether preference should be given to the circular or to the flap operation: I prefer the circular, both in the amputations of the leg and fore-arm; but as there may be circumstances arising from the nature of the injury or disease, which preclude the possibility of leaving a sufficient covering to the bones by the circular method, but under which the flap operation may still be available, I shall describe the steps which are to be followed in the performance of both these methods.

Amputation at the upper third of the leg by the circular method.—For the compression of the femoral artery the tourniquet is usually employed, but compression may be maintained by an able assistant. There are, as I have before said, advantages belonging peculiarly to each of these plans. The application of the tourniquet affords to the operator a sense of security which no substitute, not even the co-operation of a very experienced assistant, can afford; while, on the other hand, the compression of the main trunk by the thumb of the assistant interferes only with the circulation of the blood through the arteries, and thus diminishes in great measure the loss of venous blood which is inseparable from the application of the tourniquet.

In amputating, some operators make it a rule always to place themselves on the outer side of the limb to be removed, considering that the most convenient position; others always place themselves so that the left hand can grasp the portion of the limb to be removed. For myself I prefer having my left hand always on the proximal side of the limb, that I may regulate the tension of the skin and soft parts while cutting through them; I always place myself, therefore, on the outside of the right, and inside of the left limb.

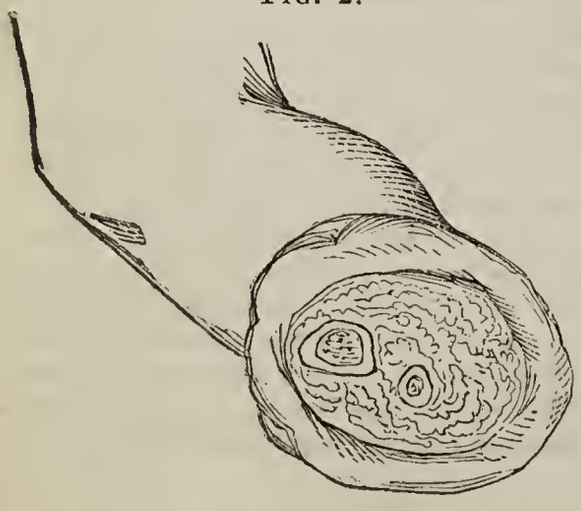
In amputating the leg, the point at which the bones should be sawn through is about three inches and a half below the tubercle of the tibia; consequently the incisions through the soft parts must be made at least two inches below this for the purpose of leaving sufficient covering to the bones; and this is effected by making a circular incision around the leg down to the very bones on the fore part of the limb, but merely through the fascia at the posterior part. The skin and fascia must then be dissected back, and everted to the extent of a couple of inches (Vide Fig. 1), which is, indeed, exactly at the point where the bones are to be sawn through: the amputating knife then being placed as close as possible to the everted skin, all the soft parts down to the bones are to be cut through by one circular incision; and, should one cut not suffice, the muscles are to be completely detached from the bones by repeated touches of the knife, so as to expose them a little above the level of the everted integuments.

Fig. 1.



A catlin, or the amputating knife if it be narrow enough, is then to be inserted between the tibia and the fibula, and all the interosseal tissues divided, taking care that the knife does not penetrate above the level where the bones are to be sawn through, as in that case there is danger of the arteries and veins being wounded above the face of the stump, which adds much to the difficulty in the after-application of the ligatures. The bones are now to be sawn through, and during this part of the operation the assistant who is holding the limb should rotate it inwards to a sufficient extent to bring the fibula to a level with the tibia; and the two bones being pressed together, by the firm grasp of the operator's left hand above, and by the assistant below, the bones are easily sawn through,—either together, or the fibula may be sawn through first: in that case, however, great care should be taken that they are divided on precisely the same level, which may be secured by making at first a groove in the two bones by one and the same action of the saw. The anterior, posterior tibial, and fibular arteries, are then to be secured, and frequently some muscular branches will also require ligatures (Vide Fig. 2).

Fig. 2.



When it can be adopted, I prefer the circular method of amputating the leg; but sometimes you may not have the choice either of the method or the part at which amputation can be performed, owing to the destruction of the soft parts, either by disease or accident, rendering the removal of the limb at a particular point, and by a particular mode of procedure, imperative.

Amputation of the leg by forming a posterior flap.—The operator standing in precisely the same position as during the performance of the circular operation, and the limb being rotated inwards, places his thumb and forefinger on the opposite sides of the leg, an inch below the pouch where the bones are to be sawn through, and ascertains precisely by the touch the position of the posterior edges of the two bones: he then makes an incision down to the bones across the fore part of the leg from one finger to the other, and, without taking the knife from the limb, transfixes the calf of the leg, directing the point of the knife through the same opening on the opposite side of the limb which was made by the commencement of his first incision: the posterior flap is then to be formed by cutting downwards along the course of the bones until he has separated sufficient to form the posterior flap, when he cuts obliquely outwards through the skin: the small anterior cutaneous flap is now to be dissected back, and a circular incision carried around the bones to separate any remaining muscular fibres which may be attached to them: the catlin being then introduced between the bones, with the precautions described in the last operation, all the interosseous tissues are to be divided and the bones sawn through. The rapidity with which this method of amputating the leg is executed excites considerable *éclat*, but I do not think

the stumps heal with the same facility as after the circular method; besides this, there is usually more difficulty in securing the arteries, and the nerves are liable to be left in long strips. I have already mentioned, in my preliminary remarks on amputation, means which may be adopted in this flap operation to avoid these accidents—viz. by adopting a course between the flap and circular mode of operating.

Two lateral flaps are sometimes recommended in the amputation of the leg, but I think this plan should never be had recourse to unless circumstances forced the operator to seek for covering to the bones from the lateral aspects of the limb.

Amputation of the leg immediately below the tuberosity of the tibia.—A condition of the leg may arise, either from accident or disease, which would leave no other alternative than to amputate immediately below the tubercle; but in such cases, if there be not a sufficient quantity of sound soft parts to form a stump without the removal of the fibula by disarticulating it from the tibia, this operation, I unhesitatingly say, should never be had recourse to; but in such cases the amputation should always be performed above the knee. I am well aware of all the advantages to be derived from the preservation of the knee-joint; but in the very attempt to do so, by the removal of the fibula for the purpose of lessening the quantity of bone surface to be covered by soft parts, there is so much danger either of opening the capsular ligament of the knee-joint, or of producing a subsequent inflammation in it from its close proximity to the tibio-fibular articulation, that I can but repudiate the method from its excessive danger even to life itself. I have twice performed this operation: once in a case of fracture, and once in a case of necrosis. My first patient recovered, but the second died from abscess in the knee-joint, although at the time of the operation there was no indication of the synovial capsule of the knee-joint being injured.

As for the amputation at the knee-joint, I cannot conceive a single efficient reason for its performance: no benefit is derived from the additional length of the stump; the condyles of the femur afford but an ill-formed base for support; the large surface of articular cartilage must retard the healing of the wound; and the liability to subsequent ulceration in the cartilages of the patella and femur, as well as the greater severity of the operation, in consequence of the laying open of so large a joint, are all sufficient reasons to condemn this method of amputating. The only modification of this operation which I can consider admissible, is the sawing through the femur immediately above the condyles: but I have yet to learn the advantage gained by the length of stump thus acquired, and therefore I consider it a better operation to amputate at the junction of the lower with the middle third of the thigh.

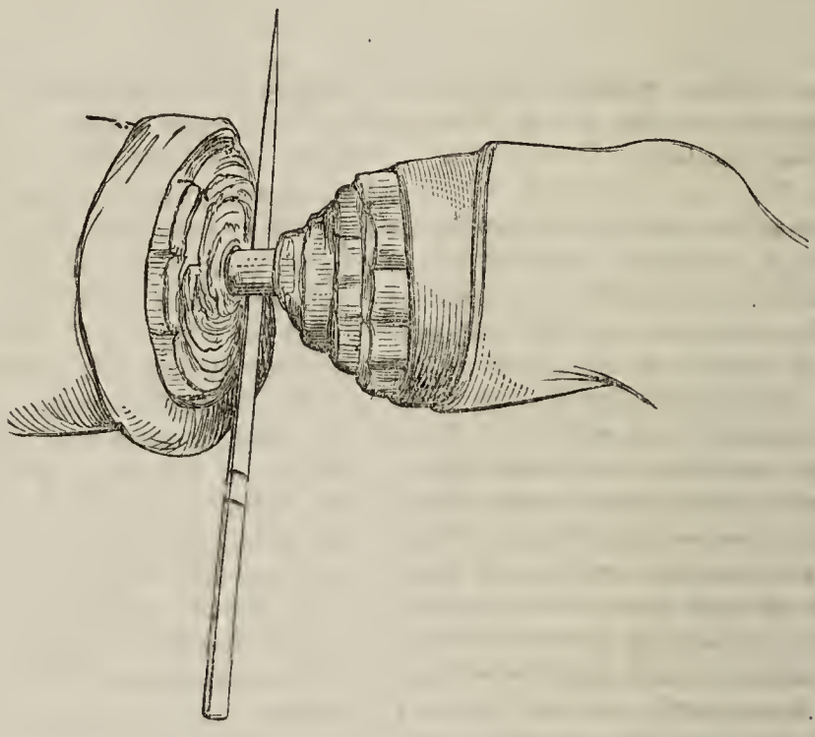
Amputation of the thigh.—This amputation is most frequently performed at the lower third of the thigh, as at that point the stump is left of the most convenient length to the patient. Notwithstanding the size of the femoral artery and its branches, it is in this operation that the compression of the external iliac artery on the pubes by the hand of a skilful assistant, instead of the employment of the tourniquet, is more especially preferable, as the application of that instrument prevents the contraction of the skin and muscles for the formation of a sufficient covering of soft parts to the bone, and on that account pressure by the hand should always be had recourse to where it is possible; and, moreover, if it be of great importance that but little blood should be lost, the latter method is preferable, as much less bleeding will occur when the pressure is made by the hand than when the tourniquet is employed, as it invariably leads to profuse venous bleeding.

The amputation of the thigh may be performed either by the circular or flap method: in a large full-sized thigh I consider the circular method preferable, as in the flap operation the weight of the flaps is so great that they have a tendency to drag forcibly upon the bone, so as to keep up a degree of irritation, and to interfere with the union of the stump. Therefore, as the choice between the two operations is not a matter of mere caprice, I shall describe the mode of proceeding in each.

Circular amputation at the lower third of the thigh.—The patient being placed on a table of convenient height, and brought close to its edge with his back well supported, the artery must be compressed either by the aid of an assistant or by the tourniquet, and the extremity about to be amputated must be firmly held by an assistant, one hand grasping the knee, and the other just below the calf of the leg. The operator should place himself on the outer side of the right limb, and on the inner side of the left, in which case the right leg should be held down out of the way of the surgeon, who, grasping the thigh with his left hand at the precise point at which he intends to saw the bone, forcibly retracting the skin, should sufficiently bend his right knee as to enable him to pass his hand under the thigh of the patient, and place the heel of the amputating knife upon the anterior surface of the limb, two inches below the in-

tended point of section of the bone; then by one sweep of the knife he must carry it around the thigh so as to terminate the incision with its point where he commenced with its heel. This incision should cut through the skin and fascia which are to be dissected two inches back, at the same time being everted. The heel of the knife is again to be placed on the upper surface of the muscles, close to the everted integuments, and with one sweep of the knife these muscles are all to be divided down to the bone; but however completely this incision may be made, some fibres of the deep-seated muscles will still require separation from the femur: this being effected, the muscles will contract even beyond the point to which the skin is everted. If the limb be very large, a linen

Fig. 3.



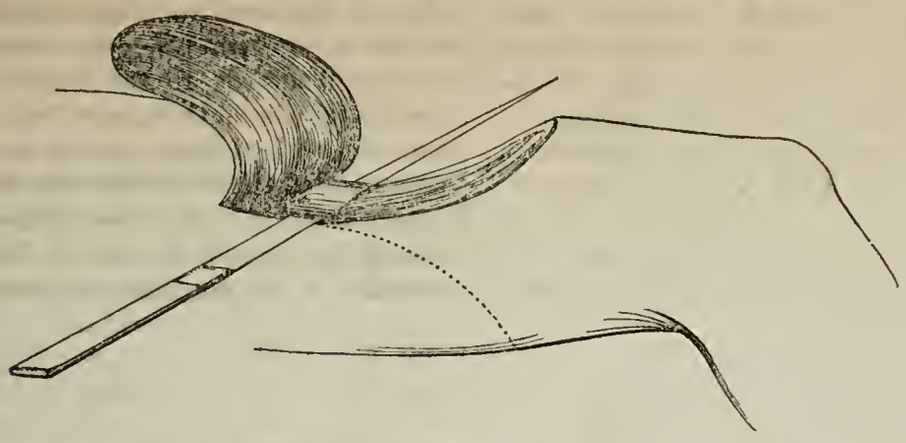
retractor may be employed to draw back the muscles sufficiently to expose the point at which the bone is to be sawn through; but if the limb be but of moderate size, the hand of an assistant will be sufficient to guard the soft parts from the teeth of the saw, which is next to be used, and the separation of the limb from the body thus effected.

The femoral artery and other bleeding vessels are to be secured in the usual manner, a bandage applied around the thigh, and the stump only partially dressed, leaving the perfect adaptation of the parts until three or four hours after the amputation, after which all danger of further hæmorrhage may be considered as past, at least until the period when "secondary hæmorrhage" is liable to occur. By the term secondary hæmorrhage is meant the bleeding which sometimes results from constitutional causes, arising either from the inability of the vital powers of the patient to seal up the arteries by adhesive matter, or to resist the ulcerative separation of the ligatures from the vessels before the latter had become obliterated.

Amputation at the lower third of the thigh by the anterior and posterior flap method.—The patient is to be prepared and secured as in the last operation, and the surgeon, placing himself in the same position with relation to the patient, grasps the soft parts on the anterior part of the thigh with his left hand, and, raising them from the bone, transfixes the limb with a long double-edged knife, keeping close to the bone by depressing the handle of the knife as he crosses the femur; and then, by elevating the handle as he pushes the knife through the skin on the opposite side, he secures a sufficiently large anterior flap. The posterior flap is then made by inserting the knife at the point at which it was first introduced, and, carrying it behind the femur, it is brought out at the same counter-opening by depressing the handle of the knife, and then the posterior flap is completed by cutting downwards and towards the surface, as in making the anterior flap: the muscles are to be separated from the femur by a circular incision at the point at which it is to be sawn through, the flaps being held back; the saw is then to be applied to the bone, and the amputation is completed; the vessels being secured and the stump dressed as in the other operations. (Vide Fig. 4, next page.)

When amputation of the thigh is required very high up, so high, indeed, as to encroach on the trochanter minor, the tourniquet should never be used, but the femoral artery compressed by an assistant upon the pubes, as the tourniquet prevents the ne-

Fig. 4.



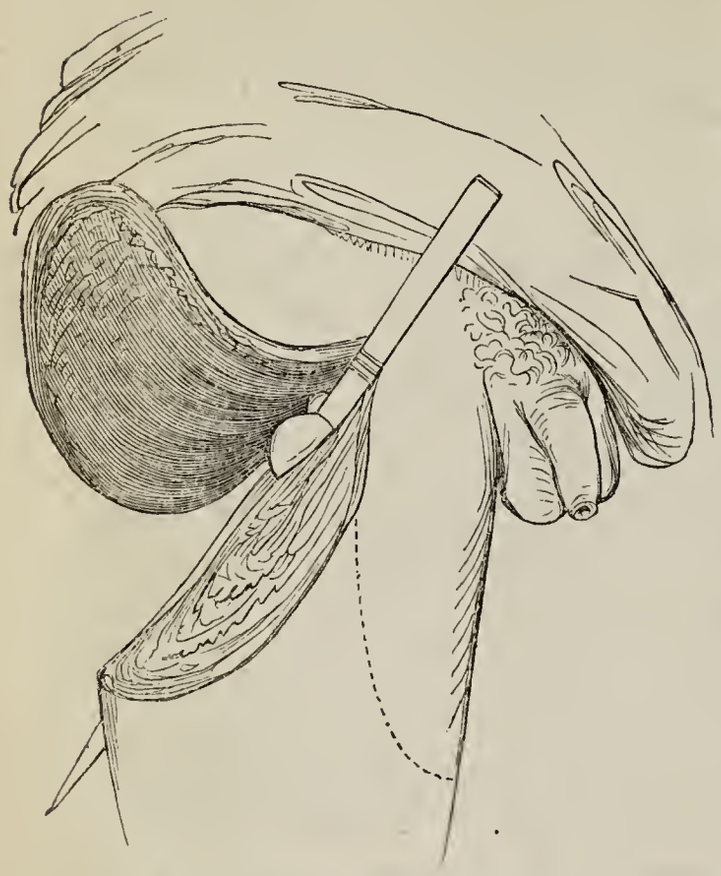
cessary retraction of the muscles, and, indeed, must be placed so high up as to be incompetent to its purpose. The flap operation is also in this case preferable to the circular, and I have in three instances employed that method, as already described in the amputation of the lower third of the thigh, by the formation of an anterior and posterior flap; merely modifying the operation by making the flaps much less thick, and separating the greater proportion of the muscles from the femur by the circular incision. In securing the vessels, care must be taken that the profunda is tied, as well as the superficial femoral artery, as the vessels are cut through very close to the point at which the femoral artery usually divides into its superficial and deep branches, and the stump should not be dressed immediately, as the patient is very likely to be faint from the severity of the operation, and therefore the bleeding would probably not occur until reaction had taken place; which period, indeed, is the most proper at which to permanently adapt the surfaces of the wound. This operation is, in my opinion, very nearly equal, in difficulty of execution and danger to the patient, to the amputation at the hip-joint. This amputation is usually rendered necessary in consequence of severe fracture of the thigh, and I think I may safely say should never be had recourse to in cases of malignant disease; for, as it is admitted to be equally dangerous to the patient with the amputation at the hip-joint, the latter operation should, I believe, be preferred in such cases, as it diminishes so much more the liability to the return of the disease.

Amputation of the lower extremity at the hip-joint.—It is true that this is an appalling operation; but so many successful cases are now recorded that there can no longer remain any doubt of the propriety of its being classed in the category of admissible operations. In patients attenuated from protracted disease, but still free from organic lesion of any vital organ, the result of this operation is not so much to be dreaded, although, when resorted to in consequence of severe external injury in a large healthy man, the prognosis must always be considered as unfavourable. I have in two cases made up my mind as to the propriety of performing this operation, but in both instances the patients faltered at the approach of the ordeal. I merely mention this to show that I had duly considered the steps I should adopt, and had, indeed, gone through on the dead body the modifications of this operation employed by different surgeons. From the experience thus gained I had determined upon following the directions laid down by Mr. Guthrie, but with some slight variation which appeared to me to facilitate the operation. Were I now about to perform this important amputation, the following is the plan I should certainly adopt:—

The patient should be placed on a low table, and the nates brought close to its edge,—so close, indeed, as to require careful support to prevent the patient slipping off. The surgeon is to place himself on the outside of the affected limb, and to commence his incision a little below the centre of Poupart's ligament, and just to the outer side of the femoral vein, and continue it downwards along the outer side of the thigh in a semilunar direction, so as to terminate at the tuberosity of the ischium: this incision is to be carried quite down to the bone, thus forming a thick semilunar flap, which has its convexity downwards. This flap is next to be dissected upwards from the femur as high as the summit of the trochanter major, when the assistant is to adduct the limb, and the operator must forcibly direct the edge of his knife inwards and slightly upwards until he brings it in contact with the head of the femur: by this process he cuts through all the rotators outwards of the thigh, and lays open the capsular ligament of the joint: the femur is then to be rotated inwards, by which motion the head of the bone is made to project, and the edge of the knife being passed between it and the acetabulum, the ligamentum teres and the inner and undivided portion of the capsular ligament is cut through, and the internal flap is completed by cutting

downwards along the inner side of the thigh, so as to form a flap of the same extent as the external one, their size having been previously determined upon in relation to the bulk of the limb (Vide Fig. 5).

Fig. 5.

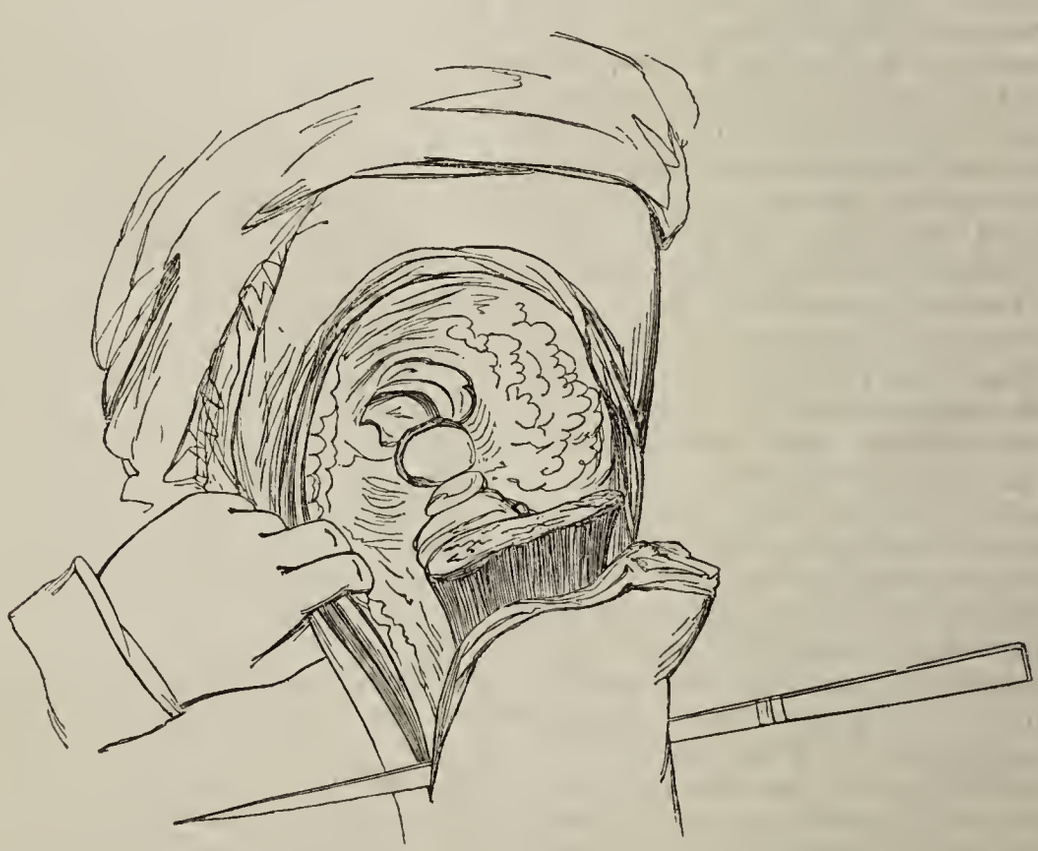


Although many different modes of performing the amputation of the hip-joint have been proposed by English and Continental surgeons, the method that I have just described appears to me preferable to any other, both with reference to the superior facility it affords to the operator, and the ease with which the parts are adapted after the removal of the thigh. Some have recommended the amputation of the hip-joint by an anterior and posterior flap, following the steps described in amputating by that method in this continuity of the thigh. A modification of the operation is represented at Fig. 6. In this the anterior flap is dispensed with, the posterior being made sufficiently large to cover the whole of the space rendered vacant by the removal of the thigh. I do not myself perceive the advantage of this plan, which has, I believe, been adopted only on the supposition that after the femoral artery is tied there is no longer a sufficient supply of blood to the anterior flap to maintain its vitality.

If in amputating at the hip-joint there be any alarming hæmorrhage, during the formation of the anterior flap, in consequence of the inoculation of the branches of the internal iliac artery with those of the femoral, the bleeding vessels should be secured immediately, and although this may cause some delay in the operation, it affords great security to the patient, preventing the excessive loss of blood that may otherwise occur.

The amputation at the hip-joint is an operation of such an important character, that it ought never to be undertaken without the most careful consideration, and never, I think, where the slightest alternative is left to the surgeon.

Fig. 6.



Original Communications.

OBSERVATIONS ON THE CLINICAL HISTORY AND PATHOLOGY OF ONE FORM OF FATTY DEGENERATION OF THE HEART.

By Edward Latham Ormerod, M.B.
Caius College Cambridge; Licentiate of the Royal College of Physicians; Late Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital.

[Continued from p. 744.]

Part I.—*continued.*

Case I.—*Fatty degeneration of the heart in an apparently healthy individual—Sudden death.*

P. H., a medical practitioner, had lived to the age of 56 in the enjoyment of the most robust health, which had scarcely been interrupted, except by two attacks of fever, and latterly by the passage of renal calculi. Feats of strength and endurance for other men were his amusements. He was temperate and regular in his habits, of a most lively and cheerful disposition, and he looked the picture of the good health which he enjoyed.

On the morning of Feb. 19, 1847, he awoke with a rigor, and, feeling unwell during the ensuing day, he took some purgative medicine, and applied a few leeches to his head, on account of an uncomfortable feeling which he had there. He was a good deal exhausted by the action of these remedies, and his friends, becoming alarmed, asked Dr. Burrows to see him on Feb. 20.

On this day he was very weak and low-spirited, breathing slowly, and sighing occasionally. He had pain and a little redness of the throat, and he himself apprehended that he had caught erysipelas of the fauces. Under the influence of a little wine and quinine he appeared better the next day; his pulse fell to 70, his spirits returned, but his weakness remained excessive. However, on the evening of Feb. 21, he rose and sat by the fire, talking cheerfully for some time. He had three or four hours' sound sleep during the night, and the improvement of the previous day was continued on the morning of Feb. 22.

About half-past 11 A.M. of this day his wife had left the room to seal a letter which she had been writing under his direction, and his servant had just finished straightening his bed, that he might sleep, when all of a sudden he pressed his head back on the pillow, his tongue slightly protruded from his mouth, his respiration became slow, and his face remained fixed. From the first his pulse had been imperceptible, and the heart's sounds were quite inaudible when examined within two minutes from that period. A little brandy was poured down his throat, but to no purpose: in less than five minutes he was dead.

The body was examined, with the utmost care, twenty-one hours and a half after death: it was still warm; the limbs were rigid; the blood was universally fluid.

The scalp was loaded with blood; the brain was generally rather softer than natural, otherwise healthy.

The posterior surface of the trunk and arms was of an intense purple, this colour terminating at an irregularly curved line which ran along the side of the thorax. The abdominal and thoracic integuments were much loaded with fat; the costal cartilages were firmly ossified. The pleuræ were free; the lungs healthy, save a slight degree of general emphysema, and a little œdema in parts.

The pericardium contained about one ounce of clear fluid. There was a "white patch" on the front of the right ventricle. The heart contained very little blood: as compared with the other organs it was small, and much fat was visible on its surface. There was a little opaque deposit in the substance of the mitral valve, and a little of the same round the attached edges of the aortic; but clearly the valves were efficient. The walls were pale, buff-coloured, and flabby; on the right they were very thin; on the left some patches of a more distinct buff colour could be seen, but no zigzag markings were seen anywhere.

Compared with a healthy heart the muscular structure appeared very pale, loose, and flabby, like wet buff leather. Under the microscope it appeared to be made up of—

1. Short broken fibres, with very indistinct transverse striæ, and beset with longitudinal rows of dots, some of which were longer than others, and some, especially towards the middle of the fibril, distinctly ascertained to be oil globules.

2. Masses of fat cells, and single fat cells intruding upon the muscular fibres.

3. Oil globules, floating loose, in great abundance.

The stomach was intensely injected about the cardiac end, elsewhere it was healthy. The lower end of the ileum contained four or five longitudinal ridges, of a pale brownish colour, bounding a fissure where the mucous membrane appeared to be wanting. The solitary glands were generally slightly enlarged; the mesenteric glands not notably so. The cæcum was healthy.

The liver was large; the gall-bladder contained two round roughly polished calculi. The spleen was large, dark, and rotten. The kidneys were healthy, save a little injection of their pelves.

To express the care with which each organ of the body was examined, it is only necessary to say that the examination was made with a suspicion of the possibility that poison had been taken. But beyond the intense congestion of a patch of the mucous membrane of the stomach, there was no evidence of the local action of any poison; and this patch there can be little doubt arose from the brandy which was poured down his throat during the last few moments of life.

The disease under which he was suffering when he so suddenly died was supposed by himself to be an erysipelatous sore-throat, which was at that time prevalent. Generally, he was supposed to be in the early stage of continued fever. This supposition, however, furnishes no adequate explanation of the suddenness of his death,—a death so wholly unlike that which in rare instances cuts off patients in the first onset of the fevers of this country. It was not as if he had then first felt the attack of fever; this had taken place some days before, and he was rallying from it. There was no coma; nothing like slow poisoning of the blood; no appearance of struggling for life; the heart at once ceased to beat, and he was dead. It is open to question how far the morbid changes in the spleen and the ileum were due to the present or the previous attacks of fever respectively; but there can be no question that these were wholly inadequate to cause death at such a time and in such a manner.

Indeed, the explanation of the suddenness of the death, and of its peculiar mode, does not lie on the surface. The question, why did he die just then, is unanswerable, except by means of an assumption that the state of previous disease taxed the powers of the heart more than any mere physical exertion could do. Perhaps this is the correct explanation, connecting the failure of the heart *about* that time with the antecedent illness. The certain explanation must remain here, as, indeed, in nearly all other cases of death, from whatever cause, unattainable.

It is almost needless to do more than refer to the case of Lord George Bentinck, in so many points analogous to the above. The general features of the case are fresh in the minds of all, and their particular application to the present subject has been made by Mr. Corfe, in a paper published in the *Medical Times* (Dec. 9-16, 1848, pp. 142-157).

The real difficulty, however, does not appear to be so much why did the heart cease then, as why did it not cease long before. How could such a state of the most important organ of the body be compatible with apparent health? Probably there are few who will hesitate to place the anomaly in the moral—if I may use the expression—rather than in the physical heart of the individual. As physiologists, we do not need to be reminded of the almost inconceivable force of muscular contraction, to be satisfied that a very small number of fibres* will suffice for the labour which is ordinarily performed by a large mass, if so be only that their energy is proportionably increased. As physiologists, too, we may find many instances where an intensity of purpose has supplied such energy, and sustained the vital powers to the completion of that purpose, and where, with its cessation, life also has ceased. And this, not in man only, but in dumb animals who have died to do his pleasure or fulfil his wants. And the records of our own profession, the experience of each one of us, could supply countless instances more pleasing than these, where an unseen power from within has enabled feeble dying bodies to sustain great and long-continued exertions, to which their physical powers have appeared quite inadequate.

Such—namely, increase of energy of the muscular fibres of the heart, to compensate for the inefficiency of part, or the increased demand on the whole—appears to be the true principle on which life continued, and even enjoyed, under these circumstances, is to be explained. And the principle is of common application, and to other diseases of the heart besides that at present under consideration.

The two following cases from Mr. Paget's Lectures (Med. Gaz. 1847, Lecture VI.), will illustrate this most important and terrible feature of the disease, the liability to induce sudden death. Mr. Paget says:—

"Case II.—I was requested to assist in the examination of the body of a woman, about 60 years old, who was wrongly supposed to have been killed by an overdose of morphia, given for the cure of some spasmodic pains to which she was subject. She had been a healthy person except for these pains, and except that for two or three years she had been growing fat. On the night of her death she took half a grain of acetate of morphia, which was twice as much as she was used to, but it did not produce

* Cruveilhier (Essai sur l'Anatomie Pathologique, tome i. p. 186) says that in a portion of muscle appearing to the naked eye totally converted into fat, and weighing thirteen drachms, one and a half drachms were composed of muscle, four grains of gelatin, all the rest of fat. Cyclop. Anat. and Phys. Dr. Walshe, vol. iv. p. 96.

deep sleep, and there was certain evidence that four hours after taking it she was awake, and talked sensibly with those around her; but after thus talking she went to sleep, and three hours afterwards was found dead. She had died in her sleep. On examination we found nothing whatever to account for death, except this fatty degeneration of the heart."

"Case III.—In the next case, a strong man, between 30 and 40 years old, addicted to very hard drinking, received a slight injury of the head. He paid no attention to it, and continued his work for four days; then, having headache, and feeling ill, he laid up, and left off all strong drink. In three days signs of delirium tremens commenced, and he was brought to the hospital. In the course of the second day after the beginning of these symptoms, while they were pursuing an ordinary course, he took 140 drops of laudanum, but no beer or spirits till in the evening, when, the opium seeming to have been sufficiently administered, brandy was given him and beef-tea. In about two hours he went to sleep, and he remained dozing and apparently improving in condition all night. But in the morning a new nurse came to him, who wished to change his bed-linen. For this purpose she took him out of bed, and sat him in a chair; but he had hardly been removed before he appeared to be dying, and he died before he could again be placed in bed. In his body the only changes were fatty degeneration of the heart and liver."

Mr. Paget adds—"Here, then, were three cases of sudden death, all the result of a similar disease of the heart, the existence of which had been completely unsuspected, and in all probability, at least in Case I., had not been attended with any signs that could have attracted even scrupulous attention. The condition of the heart was alike in all, and very characteristic, though, indeed, to an unpractised eye it might seem unimportant."

Before detailing the three remaining cases of this division there is one point to be guarded. They are not put here simply because they died suddenly, and there was found fatty degeneration of their hearts; but because this sudden death was explicable on no other grounds, taking all things into consideration, than failure of the heart's action. And in their hearts was found what may go some way towards explaining that failure.

From the nature of the cases, coagulation of the blood in the pulmonary arteries might appear a very possible cause of so sudden death. The mode of death, however, was not exactly similar to what occurs under such circumstances, and, yet better evidence, no such coagula were found there after death, The point, however, is of such importance, of all the obscure causes of sudden death to determine which has happened in any particular case, that the following details will not be irrelevant. The case selected is the one which displays the symptoms of death from coagulation of the blood in the pulmonary artery in a higher degree than any other which my collection affords.

Paraplegia form disease of the vertebræ—Sudden death from coagulation of the blood in the pulmonary arteries.

Sarah Dillon, aged 20, Hope back ward, February 1847. A healthy-looking girl, of a fair complexion, who had been in the hospital a few weeks before with some anomalous symptoms which were not exactly made out at the time, was re-admitted with the same symptoms, and with great weakness of the lower extremities. She had complained at first of a feeling as if a bandage were drawn tightly round the lower part of the chest, and when, on her re-admission, her weakness drew particular attention to her spine, it was found that the middle dorsal vertebræ projected posteriorly, and were tender on pressure.

The notes of her case, extending from Dec. 18, 1847, to March 6, 1848, speak of little but constantly increasing weakness. By the end of January she had lost all power over her legs. On Feb. 9 she had very little, if any, sensibility of the feet, though pinching of the foot was immediately followed by retraction of the legs. Indeed, it was a great trouble to her that her legs were always doubling themselves up, and that she had to ask the nurse to come and straighten them. She had great difficulty in evacuating her bladder, or controlling the action of the bowels. On Feb. 19 it is noted that all her evacuations passed away unconsciously; she dreads being moved, and all her appearance of cheerfulness and health has passed away.

March 6.—She has been steadily getting worse, though she always says she is better; but her face is dusky, and her expression anxious. Last night she had a profuse perspiration. This morning she was quite easy, and unusually cheerful, while she was having her bed straightened. About a quarter of an hour after having been changed, she cried out suddenly, "Oh my breath!" and seemed much distressed, but was revived by a little ammonia. In a little while she seemed again to be sinking; complained of pain in the right arm, and kept swaying it in the air. She grew livid, and the sweat streamed down her; and still she kept crying out at intervals "Oh my breath!" till she died, in about twenty minutes from the

time that she first called the sister's attention to "the queer feeling in her throat."

On examination of the body sixty hours after death, the limbs were still rather rigid; the blood was nearly all fluid. The brain and spinal cord were healthy, except the dorsal region of the latter, where it was closely pressed upon in front by a sharp ridge, over which it bent. This ridge was produced by the projection backwards of the intervertebral ligaments between the sixth, seventh, and eighth dorsal vertebræ. The body of the seventh was wholly, and that of the eighth partially, destroyed. There was about one ounce of pus in the right mass of dorsal muscles, in a cell, with smooth polished walls, about half an inch from the surface. This abscess was not evidently connected with diseased bone, but it passed between the spinous processes of the seventh and eighth dorsal vertebræ.

The heart was healthy; there were about two ounces of fluid in the pericardium.

The pleuræ were free, with four or five ounces of fluid in each cavity. A single, small, chalky tubercle existed in the apex of the left lung; otherwise the lungs appeared quite healthy. A large cylindrical coagulum, which had fallen out on the table, first called attention to the pulmonary arteries, which were all found more or less closely plugged by similar concretions. In the large trunks these coagula were hard, wrinkled, and of a dirty reddish-grey colour, but in the ramifications of the third order they were smooth, soft, and black. They were all free from adhesions to the coats of the vessels.

It would be out of place to digress any further on the various points of interest which this case presents, apart from that in illustration of which it has been adduced. Nor on this need any more be said here,* than that whatever other fallacies may have interfered in the following cases, this at least has had no share in their misinterpretation.

CASE IV.—*Anasarca — Ascites — Sudden death with fatty degeneration of the heart.*

James Taylor, aged 34. Matthew front ward, October 1846. A plasterer's moulder, a singularly pale man, with dark hair, of notoriously intemperate habits, and having suffered from jaundice six months previously, was admitted about a month before his death with anasarca and ascites, and in a state of great debility.

It does not appear that much notice was taken of him, and I could not make out that his urine had ever been examined for albumen during his stay in the hospital; the only points which attracted attention being the occasional occurrence of diarrhœa, and latterly of vomiting. He sank gradually, always complaining of pains in the front of his chest. One day he complained much of a choking sensation, of which he tried to relieve himself by passing his finger down his throat. He then went to the water-closet, and was led back quietly to bed, where, half an hour afterwards, he was found sitting up in the bed-chair as usual, quite dead.

On examination of the body after death, the lungs were found very œdematous, and the bronchi full of froth. There were about fifteen ounces of reddish turbid serum in each pleura.

The heart was large, of a pale colour; the valves were healthy. The interior of both ventricles, and especially of the left, was studded with little zigzag lines of a buff colour, extending a tenth of an inch or more into the substance of the organ. Under the microscope these buff spots appeared to be composed of oil globules; in their immediate vicinity the muscular fibres were represented by granular cords, and at a little further distance the granules were placed in such order as to constitute striæ. Throughout, the fibres were short, and had a granular aspect.

The peritoneum contained about four pints of yellow rather turbid serum. The hollow viscera were externally healthy; the mesentery was loaded with fat, the omentum not so.

The kidneys were lobulated, flabby, yellow looking, with abundant fine granular deposit. No fat could be detected in them by microscopic examination. The liver was about the natural size, but very heavy; the surface irregularly tuberculated, presenting broad white patches, through which little yellow granules rose up. On section it was found exceedingly hard, of the faintest buff yellow hue, with deeper coloured yellow spots (like those already noticed on the surface) which proved, under the microscope, to be collections of oil globules. The gall-bladder contained about one ounce of orange-coloured bile. The spleen was pale, its surface marked with old adhesions.

Compare this with the two next following cases.

CASE V.—*Anasarca — Pleural effusion — Sudden death, with fatty degeneration of the heart.*

Benjamin Goodwill, aged 45. John front ward, November 1845. A tailor, a man of temperate habits, and healthy till two months before his death, when he became subject

* See for further illustrations and observations, M. Baron, Arch. Gén. de Méd. Série iii., Tome ii., p. 1; Mr. Paget, Med.-Chir. Trans. 1844-45; D. Virchow, Traube Beiträge, Berlin 1846; and Lancet, 1848, p. 120.

to a dull aching pain behind the centre of the sternum, increased on exertion. For the first six weeks he managed to continue his work, but during the last fortnight he has been laid up by cough and dyspnœa, and for one week he has had general dropsy.

Now his face is dusky; skin warm; tongue clean and moist, but rather livid; pulse 120, feeble; bowels rather confined; respirations 36.

On *auscultation* the heart's sounds seem very distant, but healthy. In front there is some large crepitation in the right, and smaller in the left lung. Behind, there is good respiration in the upper half, feeble and mixed with crepitation (smaller and more abundant in the left lung) in the lower half. The right side is generally very dull to percussion posteriorly; the left is unequally so in different parts.

A small cupping between the shoulders, and the exhibition of gr. $\frac{1}{4}$ of elaterium, was ventured on, at the same time that he was supported by wine and beef-tea; and the next note states—

Nov. 14th.—The cupping was followed by no relief. He has had not more than two hours' sleep during the night. Face dusky; expression anxious; surface cold, and no pulse perceptible at the wrist. Three healthy solid evacuations from the bowels. On *auscultation* more air is heard to enter the chest in front.

He had a large blister-plaster applied to the front of his chest, and brandy, with stimulant diuretics, was ordered to be taken at short intervals.

15th.—No sleep; delirious during the night. The blister has not risen. Face dusky; expression anxious; surface cold; pulse hardly perceptible; bowels not open; urine scanty and turbid; respirations 54, with a mucous rattle in the throat.

Shortly after this note had been taken, he rose up suddenly in his bed, to go to the water-closet, but he fainted by the way, and died in the course of a few minutes.

The body was examined 44 hours after death.—The arachnoid was opake and thickened; the Pacchionian glands were especially large and numerous; the pia mater was healthy; the lining of the left lateral ventricle was granular; the rest of the brain healthy.

The right pleura contained about three pints of clear serum, the left somewhat less; there were a few thready adhesions on either side. The lungs were marked on the surface with abundant deposit of black pulmonary matter. Within, they were of a dirty grey colour, slightly œdematous, with emphysema of the apices. The bronchi were healthy; the pulmonary vessels were pervious throughout.

The heart was large and flabby, containing well-formed recent coagula in all its cavities. A coagulum, distinguished from these recent ones by its friable consistence, reticulated texture, and firmer adhesion to the walls, filled the appendix of the left auricle, taking the form of the cavity. This was as large as a horse chestnut. A few coagula of the same kind lay entangled beneath the carneæ columnæ, at the apex of the left ventricle, and three or four similar but smaller coagula, the largest not exceeding the size of a horse-bean, adhered like little tufts to the interior of the ascending aorta. The walls of three of the cavities were healthy, and the cavities themselves but just a little enlarged. The left ventricle only was considerably dilated; its walls were flabby and collapsed on section. Beneath the endocardium, and throughout the substance of its walls, were numerous pale yellow spots of the same nature as those described in the case last detailed.

The liver was small, but not otherwise notably diseased. The kidneys were small, but healthy, except the right, which exhibited on its posterior side, in some conical yellow masses, the change familiarly known as "capillary phlebitis." There was no deposit of any kind, fatty or otherwise, discoverable by the microscope in the kidneys.

Deferring, till the conclusion of the next case, to speak of the symptoms and morbid appearances which the two cases last detailed have in common, there are two points here which require a passing notice—namely, the nature of the coagula in the heart and aorta, and their connection with the peculiar change observed in the right kidney.

The coagula in the heart and aorta were all probably of the same kind, being what are commonly known as Laennec's globular vegetations.* The early history of the coagulum in the auricle was supplied by the little bean-like bodies entangled among the carneæ columnæ of the ventricle. For the illustration of the earlier history of these in the aorta, I am indebted to Mr. Courtenay, Surgeon to St. Luke's Workhouse. In a specimen brought thence to St. Bartholomew's, in February 1848, there were a number of little pedicled buttons, growing from the interior of the aorta, the coats of which, in more than one place, were cracked and perforated to some depth. From this condition it is but one step forwards to the formation of those tufts which were seen in the case last detailed; or backwards to the first deposition of the constituent particles of these growths on some rough or fissured point of the lining membrane of the aorta. Not, however, that any visible abrasion or other lesion of the lining membrane of the aorta is necessary for their origin, for an illustration of the earliest period of all which my notes supply describes the heart as large

* Laennec, Aus. Méd. Tome iii. p. 344; Rokitansky, Path. anat. Band ii. S. 475.

and dilated, the valves quite healthy, only the ascending aorta set with a few smooth round warty growths. There is no notice of any other lesion of the aorta.

The question of the nature of the patches of so-called capillary phlebitis is closely connected with the study of both the origin and the further progress of these changes in the heart and aorta. We are taught* to consider these patches as resulting from a local action, whereby the blood is coagulated and the circulation suspended in the parenchyma of an organ. And this may either arise spontaneously, or, as is more commonly the case, result from the direct transmission of molecules from the heart to the capillaries of the part. Not that the whole yellow mass is thus constituted, but that a few molecules induce the action which ensues in the formation of the mass. Clearly these masses might originate as possibly when the vegetations were first forming in the heart or aorta, or instead of their forming there at all, as when the vegetations or other growths rupture, and discharge their fluid contents into the current of the circulation.

This is not the place to discuss this interesting pathological question. The great point to be assured of at present is that these masses are not of a fatty nature. This much is quite certain on the faith of the microscope. But though this, the only point which concerns the present subject, might thus be met by a simple statement, the above digressions will not appear, in the sequel, to have been superfluous. For it is in cachectic subjects, with feeble circulation, that such masses are most likely to form in the heart; in the very persons, in fact, who are likely to be the subjects of fatty degeneration of this organ. As far, however, as their pathology is made out, the connection of capillary phlebitis and growths in the heart with fatty degeneration is only that of coincidence.

Case VI.—*Bronchitis — Sudden death, with fatty degeneration of the heart.*

Thomas Bennington, aged 55. Luke back ward, February 1847. A large, full-made man, a porter, intemperate; healthy, save a liability to winter cough, till three weeks before admission, when he began to suffer from cough and dyspnœa, with œdema of the feet towards evening. Now his face is dusky, his expression anxious, and he cannot lie down in bed. Loud rhonchus and sibilus mask all the other sounds in his lungs. His urine is not albuminous.

He got a little better under the use of diuretics and stimulants; when awake he did not seem to suffer much, but his appearance of lividity and dyspnœa during sleep were truly horrible. On the fourth day after admission he had occasion to go to the water-closet: he returned safely, rolled himself up in his blankets, and was dead in a few minutes.

On examination of the body after death, the blood was all fluid. The brain was found healthy as far as it could be examined. The lungs were emphysematous and œdematous, and universally adherent; the bronchi dusky, and full of puriform mucus.

The heart was of the natural size; the valves all healthy; the right ventricle marked internally with buff-coloured zigzag lines. To this extent the muscular fibres, examined under the microscope, resembled irregularly granular cords, but there was no marked abundance of distinct fat or oil cells.

The kidneys were large, lobulated, and the cortex of the left ill defined. There was nothing abnormal to note in the condition of the other viscera.

Looking back to these six cases, designed to present the disease in its most formidable point of view,—they were none of them in perfect health: the first was scarcely escaped from the threatenings of some coming disease; the second was liable to pain, such as to require medical attention; the other four were actually suffering from the most serious disease, which it will be worth while to consider a little more in detail.

Clearly, had no marked change been found on examining the body of Case III., there would have yet been no hesitation in attributing his death to the same cause—syncope, the result of his being incautiously placed in the upright posture. It is right, however, to remark, that though this is an accident we should always be led to apprehend and provide against, from the loose flabby texture of the heart discoverable after death during delirium tremens, still, that fatty degeneration is not in these cases ordinarily found in conjunction with that soft flabby state.* Of five dissections after death, from simple uncomplicated delirium tremens, of which I have records, the heart is noticed to have been particularly soft and flabby in four, and in four to have presented numerous small ecchymoses beneath the investing or lining membrane. In one, the heart, though flabby, was not dilated like the rest, but small, and loaded with fat. Examination by the microscope failed, however, to detect the slightest evidence of fatty degeneration in its structure.

Between the three last cases (IV., V., VI.) there is a very close resemblance. The history is the same in all,—a more or less gradual breaking up of the health, with an in-

* Rokitansky, Path. anat. Band ii. S. 437, 680.

* Dr. Watson says (Lectures, vol. i. p. 399, 1st Ed.) one morbid condition I have found constant in persons dead of delirium tremens—a remarkably soft, pale, and flabby state of the muscular tissue of the heart.

effectual attempt to keep at work,—cough and dropsy,—a short stay in the hospital,—and, at last, sudden death, following the exertion of walking to the water-closet, apparently by syncope. A little inquiry would show that the general history of cases of valvular disease of the heart is very similar, especially as regards the somewhat singular mode of termination of the cases. The actual state of things at last, indeed, is much the same in both, though brought about by different means. In the one class the obstruction increases till the heart can no longer overcome it; in the other, the heart becomes less and less able to carry on the circulation against the natural resistance of the tissue, till, as in the former case, from whatever cause, it suddenly ceases to act.

How much of this series of symptoms preceding the fatal termination was justly referable to the condition of the heart, I would not pretend to determine. Frankly I would claim only the pain behind the sternum, and the sudden death as the results of the heart disease. For all the rest, and perhaps for the pain, the co-existing disease supplied a most sufficient explanation. But without the change in the heart, the death by sudden syncope occurring in all three cases is not easily intelligible.

[To be continued.]

AN ATTEMPT TO COMPARE

THE STATISTICS OF CHOLERA DURING ITS TWO INVASIONS OF 1832 AND 1849, IN THE BOROUGH OF PLYMOUTH.

By Dr. William Hamilton.

Cholera having so far abated as to furnish evidence of its past existence merely by a few sporadic cases capriciously occurring in the most opposite localities, and with difficulty traceable to any peculiar cause, it may be interesting, if not instructive, to compare, as far as the defective nature of the materials at our command will permit, the two visitations we have had the misfortune to experience, with respect to their duration, intensity, and fatality.

In 1832 the first attack of which we have any authentic record occurred at Coxside on the night of the 11th of June, and the date of the last report issued by the Board of Health was the 18th of September—the 99th day from the commencement of the pestilence;—but the first report was not issued before the fourth day of its existence, on the 15th of June, in which interval there had been 77 attacks, of which 31, or above 41·5 per cent. terminated in death: this gives a daily average of 19 attacks and 8 deaths daily.

From the 15th of June to the 11th of July, an interval of six and twenty days, no official notice was issued of the progress or severity of the malady, but on the 11th of July the first of the series of daily reports was issued, and the publication continued with unvarying regularity from that date to the closing report of the 18th of September, giving an accurate view of all the fluctuations of the disease for an almost unbroken interval of 69 days.

In 1832, the medical staff of the town, far inferior in point of numbers to what it is at present, pressed forward with a generous and disinterested ardour, to relieve the afflicted: selfish feelings of personal interest were all absorbed in the magnitude of the affliction, pecuniary compensation does not appear to have entered into their calculations; mutual jealousies were laid aside, all cooperated with a generous enthusiasm in combating the invisible assailant, the only emulation was that of contributing the largest amount of benefit to the suffering community; and, with the exception of 12 cases in the months of June and July, and 56 in August, making an aggregate of 68, or less than one twenty-eighth part of the whole, which were suffered to pass away to the silence of the tomb without the benefit of professional aid to give them a chance of escape, a complete return was, it is believed, made to the Board of every case, and every death which occurred from this cause in the town, giving a more complete view of the progress of the malady than we can, in the late attack, hope to obtain. Had a professional record been at the same time kept of the most remarkable cases, the duration of the disease, and the most successful methods of treatment, the history of cholera in 1832 would have been nearly complete.

The first cases of death from cholera occurred on the 4th of July, in Union Road, the great connecting medium of intercourse between the dense population concentrated at either extremity in Plymouth on the East, and Devonport on the West, with the population

of the township of East Stonehouse lying between them. Union Road is perhaps one of the airiest and best ventilated parts of the town, and consists almost wholly of well built, commodious houses, respectably inhabited, but the situation is low, traversing a salt water marsh, over which the sea formerly flowed at high water, and where, as may be seen by an old map of the town of the date of 1643, preserved at the Public Library in Cornwall Street, ships were then accustomed to anchor, and has hitherto been but imperfectly drained, from the circumstance of being so little above the level of low water: this evil has, however, been since remedied, as far perhaps as was practicable. The last report issued by the Board of Health was that of the 2d of October, after a duration of 90 days, or 9 less than the exact duration, as we have already seen, of the disease in 1832, reckoned from the date of the first recorded deaths in June. The number of cases during the first fourteen days, or from the 4th to the 17th of July, as reported to the Board, were 364, out of which 81, or one in every four and a half, terminated fatally, being at the rate of 5 and nearly 8-tenths, or, in round numbers, six deaths daily, while the average number of cases was 26 daily: the mortality, therefore, as compared with the attacks, amounted during this period to about 22·25, or 22 and a quarter per cent. against 41 and a half per cent. during the four first days of its presence in 1832.

In 1832, the greatest intensity of disease occurred in the 6th period of the pestilence, or from the 8th to the 15th of August, when the number of cases was 420, out of which 150, or nearly 35·7143 per cent. terminated fatally.

In 1849, the greatest intensity appears to have prevailed during the tenth period, or between the 4th and 11th of September, when the cases were 360, and the deaths 87, or about 24·17 per cent.

In 1849, however, the reports of the Board of Health exhibit only those cases and deaths which fell under the superintendence of the district surgeons, whose treatment consequently was at the cost of the public, and hence fail to give a correct view of the entire mortality of the town, to obtain which we must have recourse to the returns of the Parochial Registrars, and from these we learn that 482 deaths from cholera were registered between the 4th of July and 1st of October, in the Parish of St. Andrew, and 235 in that of Charles, to which, if we add 25 deaths which are known to have taken place from cholera, but of which the evidence required for registration had not been obtained up to that date, we shall have an aggregate mortality, from this cause, of 742, against 676 reported by the Board of Health, showing an excess of 66, or about 9·763 per cent. above the official returns.

In 1832, the population of the borough amounted to 31,625, out of which number 1894 cases (including the 68 which were not reported), or nearly 6 per cent., occurred, while the aggregate mortality out of these cases was 779, or nearly two and a half per cent., as compared with the population, and above 41 per cent. as compared with the cases.

In 1849 the population of the borough for the month of July was 39,514; for that of August 39,269; and for that of September 38,935, giving an aggregate of 117,715, or a mean population for the quarter of 39,218—out of which, during the 90 days between the 4th of July and 2d of October, 3,217 cases were reported to the Board; to which, if we add the 66 which escaped the notice of the Board, we shall have an aggregate of 3,283 cases out of a mean population of 39,218, or about 8·37 per cent.; while the mortality, taken from the registrar's returns, and corrected by the 25 unregistered deaths, amounted to 742, or only 1·89 per cent. of the population, and did not reach to 22 per cent. of the cases, reported and unreported.

In 1832 the interments in the various burying grounds of the town were, 68 in June against 40 in 1831; in July, 268 against 67 in 1831; and 578 in August against 71 in 1831: being an aggregate of interments in these three months of 914 in 1832 against 178 in the preceding period; being an increase of 736, or above 415 per cent. from the effect of cholera.

In 1849 the deaths registered in the borough were, in July, 183 against 86 in 1848; in August, 357 against 110; and in September, 450 against 102, being an aggregate of 990 against 298;

but to the number registered must be added the 25 which were unregistered during the quarter, but which may in part be included in the registration for the autumnal quarter, raising the amount to 1,015, or 717 above the mortality in 1848; giving an increase of about 240·6 per cent. against the increase of 415 per cent. in 1832.

Hence it is clear that, while the population has increased in the 17 years since the last visitation of cholera 7,946, or above 25 per cent., the general mortality of the town has by no means advanced with an equal pace; and that arising from cholera indicates either a greatly mitigated severity of the complaint, or a great improvement in the sanitary condition of the town.

The following table, collected from the official reports of the Board of Health, gives a comparative view of the number of cases and deaths from cholera in periods as closely corresponding as the nature of the returns will admit. In 1832 no distinction was attempted to be drawn between the malignant form of cholera and that disordered action of the bowels which is in truth only a mitigated form of the complaint, and which, when its termination is fatal, may fairly be ranked as cholera, but which the hypercritical refinement of the day has been pleased to discriminate under the name of choleraic (Anglicè, choleretic) diarrhœa. Hence, to facilitate comparison, I have omitted the distinction in the table :—

Period.	Duration. From	To	Days	1832. Cases.	Deaths.	Centesimal proportion of Deaths to Cases.	Population, 31,625.
1	June 11	June 15	4	77	31	41·5	0·0980237
2	July 11	July 18	7	91	45	49·45	0·14229249
3	,, 18	,, 25	7	149	56	37·651	0·177082
4	,, 25	,, 31	7	231	93	40·259	0·294071152
5	,, 31	Aug. 8	7	319	131	41·0683	0·414355
6	Aug. 8	,, 15	7	420	150	35·7103	0·47431462
7	,, 15	,, 22	7	265	92	34·72	0·29090909
8	,, 22	,, 29	7	146	56	38·41	0·17705
9	,, 29	Sept. 5	7	77	33	42·857	0·10434
10	Sept. 5	,, 12	7	41	20	48·78	0·063241
11	,, 12	,, 18	7	10	4	40·00	0·0126482
Total.			74	1826	711	38·93757	2·248
				1849.			Mean population, 39,238.
1	July 4	July 17	14	344	81	22·25	0·206432
2	,, 17	,, 24	7	226	47	20·796	0·1197818441
3	,, 24	,, 31	7	140	24	17·143	0·06116562
4	,, 31	Aug. 7	7	239	29	12·185	0·0739
5	Aug. 7	,, 14	7	331	81	24·471	0·20643254
6	,, 14	,, 21	7	332	72	21·687	0·183613
7	,, 21	,, 28	7	287	62	21·951	0·158
8	,, 28	Sept. 4	7	277	45	16·246	0·114684745
9	Sept. 4	,, 11	7	323	63	19·5	0·160558642
10	,, 11	,, 18	7	360	87	24·167	0·2217238
11	,, 18	,, 25	7	195	60	30·77	0·152913
12	,, 25	Oct. 2	7	143	25	17·482	0·0637112
Total.			91	3217	676	21·	1·72282

This table, although, from the causes already assigned, originating in the defective provisions of the act of the legislature, not rigidly correct, furnishes, nevertheless, a tolerably accurate standard of comparison between the virulence of the pestilence, which carried off nearly 2·25 per cent. of the estimated population in 1832, and less than 1·75 per cent. of the mean population in the

present year. True, there is an ascertained excess, above the number reported to the Board of Health, of 66, to which a few sporadic cases should perhaps be added, which may have occurred since the last report; but against this may be set off the 68 unreported cases and deaths known to have occurred in 1832, with, no doubt, a number of sporadic cases subsequent to the 18th of September; but even making the utmost allowance for these corrections, the per centage of victims is only raised in 1832 to 2·463 of the population, or about two and a half, against 1·886, or less than two per cent. in the present year: showing a difference in favour of the latter of 0·577, or above one half per cent., and this in the face of numerous disadvantages, arising from a greater density of population in those parts of the town which give shelter to the poorer inhabitants, the want of adequate ventilation from the mischievous operation of the window tax, and the still defective state of the sewerage. To remedy the evils arising from the density of population, it may not be an unfitting subject of inquiry how far restrictions similar to those introduced into the proportion of passengers to the tonnage of the ship, might not be advantageously applied to the lodging-houses of the poor, so as to prevent a greater number being crowded into a smaller space than is consistent with the well-being of the inmates. As regards the window tax, the progressive improvement of the national finances under the benignant influence of free trade, and the large scope given to individual enterprise, will, it may be hoped, enable our rulers in a little time to dispense with it; while the improvements in the sewerage, which are advancing with all the rapidity compatible with the limited resources at the command of the town commissioners, will, it may also be hoped, present a still milder aspect of the visitation, should it again invade us.

On examining the localities in which the greatest mortality occurred, we find them, with hardly an exception, those in which it might have been anticipated by any one familiar with the town. Throwing out of our consideration the Cholera Hospital, in which 105 deaths occurred, and the workhouse, in which the number was 24, and examining the streets in which the 586 remaining deaths were registered, we find 328 deaths, or nearly 57 per cent., of this number took place in those beautiful localities, Stoke and Stonehouse Lanes, Quarry Lane, Higher, Lower, and Middle Lanes, Arch and Willow Streets, St. Andrew Street and Lane, Notte Street, New Street and Lanes, South Side Street, Richmond Street and Lane, and Morley Place and Lane, in the parish of St. Andrew; and Higher and Lower Streets, Moon Street and Lane, Exeter Street, Looe Street, Gaskin Street, and Mount Street, in the parish of Charles; while all the rest of the town furnished only 250 deaths, or rather less than 43 per cent.

To complete this analysis of the mortality from cholera, it is desirable to inquire into the degree in which the different ages and sexes of the population were sufferers from it: this, fortunately, I am enabled to do, by a valuable report collected from the registers

Parish of	Under	YEARS. 1	2	10	20	30	40	50	60	70	80	90	100	Total	Centesimal proportion of sexes.
St. Andrew.	Males.	12	10	59	17	25	30	34	25	14	10	1	1	238	49·4
	Females.	9	15	57	21	26	34	32	19	20	9	2	–	244	50·6
	Total.	21	25	116	38	51	64	66	44	34	19	3	1	482	100·
	Cent. prop.	4·4	5·2	24·1	8·	10·6	13·3	13·7	9·	7	3·9	0·6	0·2	100	
Charles.	Males.	11	8	22	4	10	16	8	11	9	5	1	–	105	44·6
	Females.	5	8	24	17	17	18	12	8	12	7	9	–	130	55·4
	Total.	16	16	46	21	27	34	20	19	21	12	10	–	235	100
	Cent. prop.	6·8	6·8	19·6	8·9	11·5	14·5	8·5	8·1	8·9	5·1	1·3	–	100	

of the respective parishes by the industry of the registrars, and published by them in the *Plymouth Herald* of the 6th of October.

From this table we learn that the mortality among the females exceeded that of the males in the two parishes by 12 per cent.; the difference in St. Andrew's parish, where the numbers approach nearest to an equality, having been 1·2 per cent., while in that of Charles it rose to 10·8 per cent. In St. Andrew's parish the mortality among the males exceeded that of the males in Charles by 4·8 per cent.

But the mortality among the resident parishioners fell short of that assigned in the returns by 13 male and 11 female deaths which took place in the hospital, but whose proper domicile was in Charles parish. Subtracting these, therefore, from the numbers in the table of St. Andrew's parish, we have for the correct amount of deaths 458, of which number 225, or about 49·1 per cent., were males, and 233, or about 50·9 per cent., were females.

Adding these numbers to the parish to which they properly belong, we have for the legitimate fatality of cholera in Charles 259, of which number 118, or 45·56 per cent., were males, and 141, or 54·44 per cent., females.

To be critically exact as to the legitimate mortality of each parish, we ought perhaps to inquire what proportion of the 24 deaths registered against that establishment as arising from cholera were those of paupers removed from the parish of Charles; but the proportion must be so utterly insignificant, and so little capable of affecting the general results, that it would hardly repay the labour of referring to the archives of that establishment.

The population of Devonport, or rather of that scattered population which composes the extensive parish of Stoke Damarel, was, according to the last official enumeration in 1841, 33,822, and is estimated in the report before me at 36,000, of which, according to the returns of the registrars for the several districts, 717 are stated to have been carried off by cholera. The report presented by the Secretary to the Board of Health gives as the number of deaths from cholera 707, and from choleraic diarrhœa 34, making an aggregate of 741, or within one of the aggregate mortality from cholera in Plymouth, including the 25 deaths of which no official cognizance has as yet been taken. Hence the mortality from these two causes, if reliance is to be placed upon these returns, amounted to about 2·6 per cent. of the population, and exceeded the mortality from this cause in Plymouth by 0·4 per cent. in 1832, and by 0·9 per cent. in 1849. The mortality, according to the returns given in the *Herald* of the 6th, namely, 717, amounted to 1·99 per cent. of the population, or about 0·2 per cent. more than in Plymouth this year. The following are the districts, and the number of deaths in each, according to the order of intensity:—Morice district, 254; Tamar, 151; Clowance, 122; St. Aubin, 118; and Stoke, 72;—in all, 717. The mortality of the corresponding quarter *from all causes* in 1848 was 236, or above 67 per cent. less than that from cholera alone in the past quarter.

In Stonehouse, out of an estimated population of 10,500, the number of deaths from *all causes* during the quarter was 225, or somewhat above 2 per cent., of which number 155 are registered as resulting from cholera, or 68·89 per cent.; leaving only 70, or 31·11 per cent. for the amount of deaths from all causes. Of the 155 deaths from cholera, 30 were marines.

The following table exhibits the amount of population in 1832 and 1849, with the increase in seventeen years, the mortality from cholera in the present year, as ascertained by the registry of deaths, and the centesimal proportion of deaths to the population:—

Divisions.	Amount of Population.		Increase in 17 Years.		Deaths from Cholera.	
	1842.	1849.	Number.	Centesimal proportion.	Numb.	Cent. Proportion to Population.
Plymouth . .	31,625	39,238	7613	24·0759	742	1·8638
Devonport . .	34,732	36,000	1268	3·6537	717	1·99
Stonehouse . .	9,511	10,500	989	10·9848	155	1·476
Total . . .	75,968	85,738	9770	12·8577	1614	1·882

14, Octagon, Plymouth, Oct. 15, 1849.

ON THE

MUSCULAR CONTRACTIONS

WHICH ARE OCCASIONALLY TO BE OBSERVED AFTER DEATH FROM

CHOLERA.

By Wm. Frederick Barlow,
Resident Medical Officer to the Westminster Hospital.

(*Read before the Westminster Medical Society, Oct. 20th*, 1849.)

Very remarkable contractions of the voluntary muscles are sometimes noticed after death in cholera. They are thus referred to by Dr. Watson in a lecture containing a graphic description of this dreadful pestilence:—"Another most singular phenomenon was occasionally remarked in the dead body. A quarter, or half an hour, or even longer after the breathing had ceased, and all other signs of animation had departed, slight tremulous spasmodic twitchings and quiverings, and vermicular motions of the muscles would take place; and even distinct movements of the limbs in consequence of these spasms."*

A case of cholera which was admitted into the Westminster Hospital (under the care of Dr. Basham) some weeks ago, first gave me the opportunity of observing this curious affection. A tall, well-made, powerful young man, in good health (apparently), was overtaken by cholera, and speedily succumbed to the disease. He was literally death-stricken; and when first seen it was but too evident that he would die quickly. A strong subject, his vigour nothing availed him; he sunk more rapidly than many weak ones; suffering, be it noted, most cruelly from cramps, which have but slightly afflicted many patients.

I was by his bed-side just after he expired, and took occasion to observe movements similar to those which have been long ago noticed in the cholera of India.

Within two minutes of his ceasing to breathe, muscular contractions began, becoming more and more numerous. The lower extremities were first affected. Not only were the sartorius, rectus, vasti, and other muscles thrown into violent spasmodic movements, which made their outline palpable, but the limbs were rotated forcibly, and the toes were frequently bent. The motions ceased and returned: they varied also; now one muscle was moved; now many. Quite as remarkable were the movements of the arm: the deltoid and biceps muscles were peculiarly influenced; occasionally the forearm was flexed upon the arm, flexed completely, and when I straightened it, which I did several times, its position was recovered instantly. The fingers and thumbs were now and then contracted, and at times the thumbs were separately moved. The fibres of the pectoral muscles were often in full action; distinct bundles of them were seen at intervals beneath the skin. But it is vain to attempt a description of the many various and shifting movements which were seen.

After watching these contractions for a long time (together with my friends Mr. Payne, Mr. Turner, and others, whom I had called to see this curious spectacle), I left the body, thinking there would be nothing further to witness, first observing that it was singular that the muscles of the face should remain unaffected; but this remark was made without due regard to the order of occurrence (how it can be explained I know not) which such movements are wont to observe. They occur, not simultaneously, but some succeed to others very slowly; they have been noticed in many cases to begin in the muscles of the lower extremities, and, advancing upwards by degrees, to end in those of the face. After I had taken leave of the body, the nurse was horrified by a movement of the lower jaw, which was followed by others; and thought for a moment that the man was yet alive. The facial muscles became generally affected, and at length all was still.

Let it be observed of *some* of these movements, that they assumed the *shape* of voluntary actions; others had not the most distant similarity thereto. Ridges and knots would rise from the surface, showing the violence of the contractions, just as they are seen to do in life-time. Sometimes only slight tremulous movements, such as gentle galvanism produces, could be noted in some muscles; then the more powerful actions were renewed. Be it remarked

* Lectures, vol. ii. p. 487.

that when the spasmodic contractions of the legs and arms were persisting with so great an intensity that they must have terribly tortured a sentient body, and led, without fail, to the expression of agony, the countenance had the usual stillness of death, the lips were as those of a statue.

The next case which I shall detail has many features similar to the foregoing. I may call attention, in particular, to the locality of the beginning and termination of the movements.

T. W., æt. 35, an in-patient of the Westminster Hospital (under the care of Dr. H. Roe), all but convalescent from an attack of acute rheumatism, died of an attack of cholera of about fourteen hours' duration. The cramps were dreadful; the hands and feet were much distorted, and the voluntary muscles of all the limbs were occasionally very hard and rigid; the collapse came not on step by step, but almost suddenly; never were the coldness, the oppressed breathing, the pulselessness, and other symptoms which tell of sinking, more marked. There was a most rapid and profuse discharge of serum.

After he had been dead *ten* minutes, I examined the body to see if there were any muscular contractions; none were visible. *Five* minutes afterwards I again made search; the extensors of the *right* leg were beginning to be contracted; soon they became extremely so. The vasti and rectus muscles, and the tibialis anticus, were those which seemed most powerfully affected; sometimes the muscles of the thigh would start into the boldest outline, such as that beheld in the exaggerated representations of certain sculptors. The extremity was occasionally turned inwards and outwards, and there were extension and flexion of the toes.

Six minutes after the commencement of these movements some similar contractions took place in its fellow, but they were not so violent.

In a *quarter of an hour* from the first occurrence of the latter there were remarkable motions of the right arm; pronation and supination of it, and flexion and extension of the fingers, being observed: sometimes the thumb would be moved alone; sometimes the fore-finger; sometimes a particular muscle of the arm or fore-arm, or a portion of that muscle, would separately act.

In *half an hour* from the observation of the very first contractions, the pectoralis major of the right side was in action, shortly after which the left arm was influenced; the fingers were extended and flexed alternately, and when a watch was placed in the hand during the former state, it appeared as though "grasped" so soon as the flexor muscles acted again.

I watched these movements for an hour and a quarter, others observing them too: they had not ceased altogether at the expiration of that time. The deltoid, and other muscles than those I have mentioned, shared in these phenomena. Mr. Hunt, who has been most zealous and indefatigable in his attendance on very numerous patients at a cholera sick-house in Westminster, informs me of a case in which like movements were observed. In this, as in those I have related, the disease progressed swiftly, and there was great suffering from cramps. "After death," says Mr. Hunt, "contraction of the muscles of the arms and legs took place, there being flexion, extension, pronation, and supination; the muscles of the face were also thrown into action, producing such changes of countenance that a convalescent patient in the same ward became terribly alarmed, and begged to be removed, saying that 'he could not bear to see a dead man move.'"

Several patients have, at my request, been watched subsequently to death, and no such movements seen; but in other instances they have been searched for successfully. In one case I observed only a slight and partial muscular quivering; this, probably, is the more common form of the affection. In what proportion of cases such motions happen I am entirely ignorant, and, so far as I know, there exists at present no means of ascertaining it. I am acquainted with many who have seen much of cholera, but nothing of these movements; and with others who have observed them, though but little familiar with the disease. Doubtless they would have been oftener met with had they been oftener sought for: it is all but certain that very numerous instances have escaped notice. Mr. Paget informed me that many cases of the kind have been observed attentive-

ly in St. Bartholomew's Hospital. They have been seen, too, as I learn from Dr. Baly, in the Millbank Penitentiary.

Other examples than those I have narrated have occurred in the Westminster Hospital. In two there were movements confined to the legs; in a third the legs were so forcibly retracted that they could with difficulty be straightened again. I have been told of more such observations. Occasionally the contractions are entirely confined to the face. In one case I noted a curious spasmodic action of the lower jaw, which occurred during the last moments of the patient.

A rare form of the affection has been mentioned to me by Dr. Gull, who observed it himself. Ten minutes after death there was a divergent motion of the eyeballs.

In 1832, post-mortem contractions were frequently observed; but long before that time they had been remarked in India.

Mr. Mather relates that in 1819 he witnessed a very singular occurrence. He had left the body of a person whom he had himself seen die of cholera. In half an hour he was summoned by a messenger, who reported that the foot of the deceased was moving. He thought there was an "illusion," but returned to the corpse, and witnessed contractions of the foot and hand.*

Dr. Johnson remarks, in his work on Tropical Climates, that spasmodic twitchings of the muscles occasionally took place after death, and continued a considerable time, and refers to an interesting case in which limbs, lost both to sensation and motion, became affected with spasms, and were rendered painful during an attack of cholera.†

Two of the most marked and carefully observed cases which I have read of, occurred in India, and have been referred to by Dr. Elliotson in his Lectures. I think I shall need no apology for extracting the account. "Another very remarkable circumstance is mentioned, the occurrence of a twitching of the different muscles of the body after the person was completely dead. The fingers, the toes, and every part of the face, were seen to move. Observations of this description were made on two subjects; the one a Caffre, and the other a Malay. The former died twenty hours after the first seizure, the complaint baffling the most powerful remedies. In fifteen minutes after he expired the fingers of the left hand were observed to move; then the muscles of the inside of the left arm were contracted in a convulsive manner; and the like motions were slowly propagated upwards to the pectoral muscles. The muscles of the calves of the legs were contracted in like manner,—bundles of their fibres being drawn together in a tremulous knot. The muscles of the inside of the leg and thigh were forcibly contracted in a vermicular manner. The muscles of the face and lower jaw were similarly affected; and, finally, those of the right arm and right pectoral muscle. These motions increased in extent and activity for ten minutes, after which they gradually declined, and ceased twenty minutes after they began. With regard to the Malay, about fifteen minutes after he expired the toes began to move in various directions; and the feet were made to approach each other. Muscular contractions were speedily propagated upwards along the inside of the legs and thighs. The thighs were turned slowly inwards so as to approach each other, and again outwards; the whole of the lower extremities moving on the heels as on pivots. These motions proceeded upwards, producing a quivering in the muscles. In five minutes the upper extremities began to be similarly affected. The fingers were extended and often rigidly bent inwards, and pronation and supination of the hand were steadily though slowly performed. The same quiverings were observable in the lower extremities, and extended to the pectoralis major muscles, and the superior margin of the latissimus dorsi. The muscles of the face moved, and the head was observed to shake. The total duration of these appearances was half an hour. By moving or pricking the arms or limb, these contractions were rendered stronger, and were again renewed when they had ceased."*

With respect to what is affirmed in the latter part of this extract, of these motions being increased and provoked

* See Kennedy's History of the Contagious Cholera, p. 116.

† Influence of Tropical Climates, Lond. 1841, p. 324.

* Lectures on the Principles and Practice of Medicine, London, 1842, p. 1076.

by pricking, I have but little to remark. In one case very favourable to the making of the experiment, I endeavoured to repeat the observation. I cannot say that I was successful. At first I thought that pricking with a pin did excite contraction; but after careful and repeated experiment I was driven to the conclusion that no result could be fairly assigned it. Sometimes, indeed, motion followed a puncture, but by no means invariably; and where it did ensue it was extremely doubtful whether the muscle would not have contracted independently of the experiment. I pricked muscles which were quiescent to see if motion could be provoked, and such as were slightly contracting to discover if it could be increased. I used punctures, both superficial and deep, and with every attention to time, place, and circumstance, but there was not that *uniformity* of result, or that approach to it, which would alone have justified me in the inference that the muscles were really excited by the experiment. I applied water to the skin of the temperature of 150°, and afterwards water with heat raised nearly to the boiling point, but it had no effect. The case, I repeat, was well adapted for making the investigation, the motions enduring for nearly an hour, and affecting almost every part of the body; but after all I speak of a *single* instance, and let it only be rated at its worth.

I hope that some of the fellows of the Society will state their experience of these curious movements. Doubtless many of them have observed them either during the present or former epidemic. They vary in degree exceedingly, and in duration also: ranging between a few slight or hardly visible quivers (which are somewhat comparable to gentle undulations on calm water), and the most decided and energetic contractions, they may either entirely elude the attention, or at once seize it as a marvel. Sometimes they restrict themselves to certain muscles, those of the legs most commonly, or are confined to the muscles of the face, or, it may be, a particular muscle of it. Dr. Sibson has related to me a case in which the pectoral muscle, together with its fellow, was exclusively affected; and I have already referred to an example in which motion was confined to the eyes. There seems as little limit to the narrowness of the operation of these movements in some cases as to the wide sphere of their display in others. A matter most curious to note upon occasions is their strange progression from part to part: they proceed for a while, in some examples, with great regularity from below upwards, but in others they travel about waywardly, and fitfully appear and vanish time after time. Commonly they occur within a quarter or half an hour of death, but they may be delayed much longer. We know not yet the remotest interval which may pass between death and them; but this is one of the most important as well as interesting points to ascertain. Let me mention a circumstance which bears upon this subject. A woman who was watching the body of her husband *six* hours after death, saw movements of his leg, and the hand drawn across the chest. Fancying he was coming anew to life, she sent in great trouble for a medical opinion. Mr. Ball informed me that he went immediately, and found that the position of the limbs had been altered. I have questioned this poor woman, and she plainly describes motions like those which I have myself witnessed: and as we know not yet how long such movements may commence after the cessation of the breathing, and as nothing could be more absurd than to assign limits by the arbitrary rule of our own minds, which know not what is possible and what not, I have thought right, without comment, to make record of her narration.

In describing the examples of these strange phenomena, which I have seen myself, I have refrained from an unnecessary detail of the symptoms during lifetime. They would have been those of cholera in general; and too fresh in our memories are that cadaverous aspect which no pencil can pourtray, that ineffable prostration which nothing can rally, that ominous restlessness death only can calm.* But it should always be stated in narrating such appearances, whether the disease ran its career more rapidly than usual, or was accompanied by cramps of more than common violence.

* With what rapidity do the signs of collapse succeed to the escape of the blood-serum—

"Unâ eâdemque viâ sanguisque animusque sequuntur." *Æneid*, x. 487.

Intense has been the horror which the contractions have excited amongst ignorant people, who have fancied not only that the living have been called dead in a mistake, but that they have even been buried in a like error. Miserable delusion! and yet it is anything but surprising that it should have gained more or less prevalence. Nor are some easy to argue with on such a question. People reason less conclusively when overwhelmed with affliction than at any time besides. Never is the voice of demonstration or philosophy so little welcome.

So wont are we to connect absolute stillness with perfect death, that these movements at first sight amaze ourselves. But the anxiety with which doubting friends have sometimes watched the bodies of the dead is really inconceivable. They are apt to misconstrue the least signs. The change of expression which now and then accompanies rigor mortis, knitting the placid brow, might have proved a source of misgiving, but actual motions of the countenance, such as are now and then beheld in the corpses of those perishing of cholera, may well strike them with dismay. All who attend upon the sick should be apprised by the physician that such movements may happen. Thus horror may be spared some minds at any rate. I have just said with what intentness bodies have been watched; not a few have dreaded to close the coffin after days have passed away since dissolution happened. A fortnight ago I went with Mr. Hunt to see a corpse which had been laid out two days or more. It appeared that a violent quivering of the lower lip had been remarked soon after dissolution. We found the body dead as one long entombed, but the friends would not be satisfied until Mr. Hunt opened a vein freely, to prove to them that no blood would flow.

I need hardly observe that, in a ward of patients lying sick with cholera, great care should be taken, so soon as life has left, to screen the dead from their survivors, lest some shock of mind may add, and needlessly, to that so dreadful one which the body has already borne. Imagine the unutterable horror of a man who sees movements in a corpse lying, perchance, on the bed nearest his own, which may be made all the more terrible and mysterious, either from their influencing the features or being obscurely visible beneath a sheet laid over or wrapped around the body of the dead. Remember we that the illiterate are apt to mistake any movement as a sign of life, no matter whether the heart contract or a distant muscle of a limb shall quiver; and that we are bound always to prevent an unpleasant feeling even, whenever we are able, much more a terror which it is difficult to calm.

So far as the observation of these movements is concerned, there can be nothing easier; but when we come to their solution, or rather the *attempt* to solve them, we have a problem before us that we cannot master. But surely they should be more closely studied than they yet have been, and a good history of particulars obtained at any rate. The following are amongst the inquiries which might be made:—

Do they happen exclusively in those cases where patients expire in "*collapse?*"

Are those persons most prone to them who sink with unusual rapidity, and suffer to an uncommon degree from cramps?

Are strong and muscular persons especially subject to them?

Do they more particularly affect those muscles which were the chief seats of cramp in life-time?

What is the most usual time of their occurrence?

What is the longest period known to elapse between death and their commencement?

What is the greatest extent of their duration at present known?

Can they be readily excited and aggravated? and, if so, what stimulants are most efficacious?

In what proportion of instances do they occur?

Supposing them to affect many parts, in what locality do they, speaking generally, first appear?

Let me add a question of another order:—

Are they a renewal of those actions which during life occasion the cramps whereby so many are tormented? or are they to be considered as *peculiar* movements occurring in the dead alone?

I have already stated some facts which

bear upon these questions to some extent, and will refrain from repetition. I wait to learn the experience of others.

No doubt these contractions happen through the operation of some fixed law, which is not the less a law because so obscure to us: and we may assume that there are unlike states after death in cholera, from the circumstance, taken by itself even, of their sometimes occurring and oftentimes not. Nothing would be more gratuitous than to affirm that they do not take place always under the like circumstances; for we are ignorant of the conditions needed to originate them, and can only conclude that those conditions are present by the existence of the phenomena.

They must be distinguished from all actions artificially excited, for they are independent of external agencies of any kind; and, if it should be proved in some instances wherein they are observable, that certain artificial stimuli will excite or aggravate them, a distinction must be drawn between those which happen and those which are provoked.

I think there is every reason to infer that they are caused by a stimulus acting within the muscles, and are therefore very contrary to such motions as we can occasion by galvanism or any other excitant. Certainly they most resemble the spasmodic actions which are common during life in cholera, and are not comparable to movements dependent either upon direct or reflex excitement of the spinal cord, or to those caused by irritation of the trunk of a nerve. In one respect (if not in more than one) they may be likened to the effects of rigor mortis, which, as may sometimes be observed of these contractions, affects parts in *succession*.

Unusual when considered as to the sum of deaths composed of the issues of disease in general, they are not so when regarded in reference to cholera alone. Inexplicable they may be fairly called, but things more familiar are quite as much so. *Why* rigor mortis happens we know not: we know only that it *does* happen. At present we must be content to consider them as facts, and avoid all tempting hypotheses, and accurately observe them, as opportunities allow, with a painstaking regard to every circumstance. No advances in knowledge can ever be made by spinning one mystery around another; but by this means complexities are indefinitely multiplied, and superfluous impediments offered to inquiry.

Westminster Hospital,
Oct. 20, 1849.

ON A SERIES OF ORGANIC ALKALIES HOMOLOGOUS WITH AMMONIA. BY M. ADOLPHE WURTZ.

M. Wurtz states that he has succeeded in forming a true organic compound by adding to ammonia the elements of *hydrocarburets* C^2H^2, or C^4H^4, without the loss to this alkali of its most obvious characters, such as its odour.

By adding to the elements of ammonia NH^3, the elements of an equivalent of methylene C^2H^2, the compound C^2H^5N is obtained, and to which M. Wurtz gives the name Methylammonia. By combining ammonia with etherine, C^4H^4, the compound "Ethylammonia" C^4H^7N is obtained.

The combinations C^2H^5N, and C^4H^7N, may be regarded as methylic ether, C^2H^3O, and ordinary ether, C^4H^5O, in which the equivalent of oxygen is replaced by one eq. of amidogen, NH^2; or as ammonia in which one eq. of hydrogen is replaced by methylium, C^2H^3, or of ethylium, C^4H^5. The following formulæ show the relations existing between these bodies:—

H^3N Ammonia.	NH^2,H Hydramide.
C^2H^5N Methylammonia.	NH^2,C^2H^3 Methylamide.
C^4H^7N Ethylammonia.	NH^2,C^4H^5 Ethylamide.

M. Wurtz points out the conditions under which these bodies are formed, and the results of analyses determining their composition. Methylamide and ethylamide are produced by the action of potash on cyanic ether; by the action of potash on cyanuric ether; by the action of potash on urea.

M. Wurtz has also succeeded in forming salts of these bases by their combination with chlorine and nitric acid. He is of opinion that methylamide and ethylamide may be found under other conditions than those already pointed out, and states that further observations are required to complete the history of these alkaloids.—*Comptes Rendus*, Feb. 12, 1849. χ

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 9, 1849.

We have now before us a Report of the Proceedings of the Medical Staff of the Sculcoates Union, Hull, drawn up by Dr. Cooper, the Medical Superintendent. It is, on the whole, a very satisfactory document, as it confirms the view which the late visitation of Cholera has most strikingly impressed upon the minds of all practitioners—namely, that if we wish to check the ravages of this formidable disease, we must look to *prevention* rather than *cure*. This, indeed, is the great feature of the house-to-house visitation system, the benefits of which have been so remarkably brought out by the experience obtained in Glasgow and other large towns. At the time that the plan was suggested for this metropolis, it was strongly objected that it would tend to spread the disease by creating a panic. While, however, there was no reason to believe that this result really followed, other and unexpected benefits have been found to arise from its adoption. These are well summed up by Dr. Cooper in the following statement of the objects of house-to-house visitation:—

"It aims at searching out and detecting disease in its early and only manageable stages, because it is found that the poorer classes are too ignorant, too careless, or too apathetic, to apply for a remedy spontaneously, until driven to it by symptoms which show the case to be beyond human control. Another intention of the system is to discover the location of the disease at any particular time, and to determine the points where it is most rife, and, by concentrating our preventive force upon such points, to check the evil in the bud. It further tends to give confidence, hope, and courage, to the public mind at a time when these qualities are most likely to fail, and when their failure is attended with the most disastrous consequences. A further important result of the visitation system faithfully carried out is the discovery and exposure of nuisances in and about the houses and premises of the poor, which would otherwise escape detection; of these we have had many reported, all of which have received the notice of our inspector. Many destitute persons have also received relief by the same agency. Lastly, this system is intended to provide certainly and promptly the best known means of succouring those unfortunates who have already become the subjects of the malady in its confirmed and dangerous form."

After reading this summary of results derived from practical experience, the sturdiest opponents of the system must, we think, admit that any objections to its universal adoption are more than compensated by the benefits which it so obviously confers on the poor, ignorant, and helpless class of society. The allegation that panic is liable to be created, and the ravages of the disease thereby extended, is wholly opposed to the experience of the Hull visitors. So far from this we are informed that

"the unanimous testimony of the visitors is in favour of the high value which the poor set upon house-to-house visitation as a mark of attention to their welfare; and of their readiness to give information and assistance, and their thankfulness for the relief afforded."

It is unnecessary to reprint the tables which are published with this report. The subjoined paragraph will show our readers that the results are not exaggerated, and that in the exercise of the self-denying spirit which characterizes the medical profession, the lives of several of the visitors have fallen a sacrifice to their humane endeavours to prevent the diffusion of the disease among their poorer townsmen.

"It appears by the tables that about 2600 cases of disease in various grades have

been discovered by the surgeons and house-to-house visitors; of these 2,234 have been cases of simple diarrhœa, the great majority of whom would undoubtedly have never applied for relief at all, and many others only when confirmed cholera had set in; 218 are cases exhibiting symptoms approaching to cholera; and 130 were discovered in a confirmed state of the disease. It is very gratifying to remark, that of those discovered in the earlier stages only 10 passed into cholera while under treatment; a number which shows on the one hand the tendency of these forms of disease, when uncontrolled, to pass into cholera, and on the other, how efficacious have been the means employed in averting this deplorable result. We further remark, that of 218 cases of rice-water purging, a very advanced form of the disease, on the verge, in fact, of cholera, only five passed into cholera, 213 having been saved by being timely discovered and treated. The gross number of recoveries has been 1615. It is true that the disease, following the well-known law of epidemics, had reached its climax, and was on the decline before this system was introduced; yet we had melancholy evidence that its virulence was far from being exhausted in the sad cases which occurred in our own staff, as well as many others about the same time in the higher walks of life, while the mortality among the humbler classes, who were the objects of this visitation, maintained a singularly equable and rapid decline."

We draw attention to this report not merely for the purpose of showing that the ravages of cholera may be greatly mitigated by the system of house-visitation, but at the same time with the view of suggesting that its adoption in regard to other zymotic diseases would have an important influence on the health of towns. The detection and isolation of cases of measles, small-pox, scarlet fever, and typhus, when the mortality from these diseases appears to be on the increase, in an urban or rural population, would be obviously a great step towards their suppression, and it would probably be the means of saving yearly many valuable lives.

A CASE has just occurred under the Medical Witnesses Act, which, as it possesses some novelty, it is of importance to notice, if only for the future guidance of medical practitioners at Coroners' Inquests. Mr. Radcliffe, a respectable practitioner of Leeds, was called to see a man who, it was stated, had taken poison. He found the patient labouring under such symptoms as would be caused by a large dose of arsenic, and was informed that he had taken, about three hours before his arrival, what was supposed to be that mineral. There had been vomiting and purging, and the patient was then passing into a comatose condition. He died in five hours and a half after having taken the poison. We make the following extract from a letter addressed by Mr. Radcliffe to the editor of a respectable contemporary journal,* as it sets forth the grounds of his complaint against Mr. Blackburn, the coroner:—

"An inquest was held upon the body the same day, when it was proved that deceased had been in a desponding way for some time, and that he had had arsenic in his possession for some months. I stated in evidence, that the symptoms I had observed were such as might have been caused by a large dose of arsenic, and that it was probable death was caused thereby, and was not the result of disease; but I did not feel justified (in answer to a question from the coroner) in saying I had "no reasonable doubt" that this was the case. The jury seemed disposed to return a general verdict, that deceased had died from poison; but to this the coroner demurred, observing that the specific poison must be named in the verdict; and as I still declined saying I had "no reasonable doubt," although the question was a second time put to me, the inquest was adjourned until Thursday the 17th, in order that I might make an analysis of the matters vomited, and should I not find poison

* Provincial Medical Journal, Oct 31, p. 611.

therein, I was then to examine the body and pursue my investigation in the usual manner.

"As it never once occurred to my mind, that *the usual fee* (A) for an analysis (in addition to that for attending the inquest), would be withheld, I did not ask the coroner for a formal order—especially as he had stated to the jury that he did not suppose I should make an analysis for my own amusement—but proceeded at once to the investigation, and at the adjourned inquest stated, in evidence, that I had found arsenic in the matters vomited, and to the coroner, at his request, the processes I had used for its detection. A verdict was immediately returned, in effect, that the deceased had destroyed himself by arsenic, whilst labouring under temporary insanity.

"The coroner then paid me a guinea, and on my remonstrating with him for not being remunerated for the analysis also, he referred me to the Act of Parliament, which, according to his statement, gives a coroner no authority to pay a surgeon for making an analysis, unless a post-mortem examination be made at the same time; *and that, strictly, the act only allowed three shillings and sixpence to a chemist, not medical, for making* (B) *an analysis; although he always rewarded such chemist's labour with a guinea*, and no objection was made to such an item in his accounts by the Town Council (C). On observing that I might have declined making an analysis, and then that a chemist would have been employed, who would have received the fee which was withheld from me, Mr. Blackburn *replied, that if my evidence was not full and satisfactory he had the power of withholding my fee.*"

In a subsequent correspondence with Mr. Radcliffe, the coroner stated very correctly that the Medical Witnesses Act allows of a payment of a fee of two guineas only in those cases in which a post-mortem examination of the body is made, *with or without an analysis* of the contents of the stomach or intestines. There is no provision for payment for an analysis in a case in which there is no post-mortem examination. Had he, therefore, under these circumstances, paid Mr. Radcliffe two guineas, one guinea might have been disallowed by the magistrates in his quarterly accounts; and as no stipulation for additional payment had been made, the coroner was legally justified in refusing the payment of an additional guinea.

From a careful review of the facts, it appears to us that there was no ground for reasonable doubt that this man had died from arsenic; and if any doubt had really existed, a simple analysis of the vomited liquid should have been made as an aid to diagnosis when the medical practitioner was first called. The process for resolving a doubt of this kind in reference to liquids ejected from the stomach is now so very simple, and involves so small an expenditure of time, that we can scarcely regard it as a subject of sufficient importance for a special legal enactment. If an analysis *without a post-mortem* be likely to entail a large amount of scientific research and a great expenditure of time, then one of two courses is open to the practitioner duly summoned to give evidence: he may decline the responsibility of an analysis altogether, and then, under sect. 2 of the Act, a majority of the jury may require the coroner to issue an order for additional evidence; or if the medical witness offer to undertake it, he must make a stipulation before witnesses for the payment of such additional sum as the nature of the investigation may justify him in demanding. In the latter case the payment would not be made under the Medical Witnesses Act, but by a special application to one or more members of the Finance Committee of the county. If there be an absolute *necessity* for such extra analysis, there will be no difficulty in procuring payment: it is therefore a mere subterfuge to assert, as we have seen it publicly stated, that it is *not* in the power of the Coroner to

provide for such emergencies. If the magistrates feel that they can repose a proper degree of confidence in this functionary, an application for extra fees is not likely to be refused, for it throws the whole responsibility of defeating the ends of justice upon the Board of Magistrates, by reason of their declining to allow expenses which are absolutely necessary to a judicial investigation.

The practical question, however, presents itself—Did such a necessity occur here? We think not. If a reasonable doubt could really have been entertained of the cause of death in this instance, a post-mortem examination of the body should certainly have been made. The discovery of arsenic in a liquid said to have been vomited by the deceased is not of itself sufficient to remove a reasonable doubt. Nothing short of the detection of the poison in the stomach and viscera, with the marks of its action, could, when taken with the symptoms, have satisfactorily and conclusively proved that the deceased had really died from poison. Had the jury not been satisfied, prior to the analysis of the vomited liquid, that the deceased had died from arsenic, the evidence based upon such an analysis would not have sufficed for the purposes of justice. Mr. Radcliffe was not compelled to undertake it, but in making the offer he should have inquired of the Coroner whether any additional fee for such a chemical investigation would be allowed. He could then have acted accordingly.

In dismissing this case, we feel called upon to notice a statement imputed to Mr. Blackburn, the Coroner, and contained in the last three lines of the extract of Mr. Radcliffe's letter. The Coroner is reported to have said that if his (the witness's) evidence "was not full and satisfactory, he had the power of withholding the fee." Our readers will observe that Mr. H. M. Wakley assumed this power in a remarkable case to which we have recently directed the attention of our readers;* but from the report of the trial of LORD *v.* WAKLEY, inserted at page 817 of the present number, it does not appear that the deputy-coroner had the courage to submit this to the County Court judge as his legal (?) ground for refusing a fee to the plaintiff. Had he made this his plea, the judgment would, we believe, have gone against him; for no such arbitrary power as that here assumed, is conferred on coroners either by common law or statute. A personal feeling against a medical witness might at any time induce a coroner to state that the evidence was not "full and satisfactory," and the fee be thus frequently withheld on vexatious grounds. The best authorities on the law of coroners, Sewell and Jervis, do not mention the possession, or even refer to the assumption of any such power by these functionaries. A coroner can legally punish a refractory witness by committing him for contempt; but if he has issued according to the act a legal order for the attendance of the witness, the fee cannot be withheld upon a mere squabble between him and the witness as to how far the medical evidence is full and satisfactory! If the medical practitioner refuse to attend when such a legal order has been served upon him, he may, under the 6th section of the act, be fined five pounds. If he attend in obedience to the summons, and wilfully obstruct the inquiry by refusing to give evidence, he may be committed. The law, therefore, has given the coroner for the full vindication of his authority, a power of punishing by commit-

* See our number for Oct. 26th, page 714.

tal, and except so far as the 6th section of the Medical Witnesses Act extends, in no other way. A medical man armed with the legal order, and performing his duty as a witness in a conscientious manner, may therefore treat this novel suggestion of withholding the fee as an idle threat.

Reviews.

A Practical Treatise on Variola Ovina, or Small-Pox in Sheep; containing the history of its recent introduction into England: with the progress, symptoms, and treatment of the disease; also the experiments instituted to ascertain its peculiar features, and the best means to avert its fatal consequences. Illustrated with coloured Plates. By James B. Simonds, Lecturer on Cattle Pathology, &c., at the Royal Veterinary College. 8vo. pp. 157. London: James Ridgway; John Churchill. 1848.

The preceding very lengthy title supersedes the need of any introductory remarks on our part to inform our readers of the nature and object of the work itself: we shall therefore proceed to put our readers in possession of a few of the interesting facts it conveys.

Mr. Simonds alludes to the various authors who have mentioned visitations of sheep-pox and other malignant diseases on the continent, and concludes from his review of these that "Clavelée," the French name for the pestilence, has not been among those which have broken out among our flocks and herds. He considers that it has now for the first time appeared as an epizoötic among us.

On its cause, the following remarks are true, and capable of extension to other diseases:—

"Although, then, 'one swallow does not make a summer,' yet one positive proof of the communication of disease from animal to animal should render us very cautious, and much influence the opinions we may give on so important a point.

"Judging from our present experience and observation, as well as from the facts related to us, we have every reason to fear that *Variola Ovina is both contagious and infectious.*" (p. 16.)

The following extract conveys a brief history of its first appearance in England:—

"On September 4th, 1847, I was consulted by Mr. Statham, farmer, of Datchett, near Windsor, with reference to a cutaneous disease of a destructive nature that had broken out among his sheep. I was informed by him that he had purchased fifty-six sheep of the Spanish breed in Smithfield market on the 26th of July. Before putting them with others, he placed them in a separate pasture, with a view to ascertain if they were free from Eczema Epizoötica, which so frequently makes its appearance after sheep have been driven from one place to another. No symptom of this disease having shown itself at the termination of a week, the sheep were allowed to mingle with a flock of about two hundred 'Downs,' which at that time appeared to be in perfect health.

"A few days subsequently, while going over his grounds, Mr. Statham saw one of the 'Spanish sheep' standing apart from the others; and on examining it, he found the surface of its body covered with eruption, which he thought resulted only from the stings of wasps or hornets, and on that account the animal was not removed.

"On the following day several more of the 'Merinos' were found to be similarly affected; and from this time the disorder continued to spread, and many of the sheep died." (p. 17-18.)

Several experiments were instituted which establish the fact of contagion beyond dispute. The period of incubation has varied considerably:—

"We have witnessed the appearance of the eruption on the seventh day succeeding inoculation, and we have known it to be delayed to the thirteenth day, although the experiments were being carried on simultaneously: in *natural* cases also, the time has ranged from the ninth to the twelfth day. The disease is generally found to be less destructive in cold than in warm and humid weather, and to produce a less amount of mischief among young animals than among old." (p. 72.)

Inoculation or ovination has been suggested as a protective measure in case of its spread in England. Ovination naturally possesses great interest relatively to vaccination: the latter has failed to afford any protection from variola ovina. The ovination of man has not been attended with success in the experiments instituted in this country.

The prevention of the introduction

of infected sheep into England is beset with many difficulties, which are only to be overcome by active measures adopted by government, and carried out by competent veterinarian officers.

The author's concluding words are in harmony with the whole of his treatise:—

"Doubtless, much remains to be done; yet we trust that the succinct history of the introduction of the disease, and the means adopted to ascertain its true nature, and the laws that regulate its extension, &c., which are herein recorded, may assist the labours of future inquirers. We are quite contented that the honour of perfecting the investigation of this important subject shall devolve on those who are far abler than ourselves to do it justice, and shall be satisfied if the humble merit of having acted as a pioneer be conceded to us." (p. 157.)

We may accord to this little treatise what is far from being frequently a just concession, that it answers to its title of "practical." While it tends to reflect credit on veterinary surgery, it cannot fail to afford much instruction to members of the profession.

A Dictionary of Practical Medicine; comprising General Pathology, &c. By James Copland, M.D., F.R.S. &c. Part XIV., being Part V. of Vol. III. Rabies to Schirrous. London: Longmans. 1849.

The subscribers who have grown grey since this work was commenced, will be glad to know that another part has been recently issued from the press, and that there are now but few letters of the alphabet remaining: hence the completion of the Dictionary within a reasonable period may be fairly looked for. This is the more desirable, as we have reason to know that many young practitioners will not add the work to their libraries, notwithstanding its acknowledged utility as a book of reference, until letter Z appears on the horizon.

In the part now before us, the subject of *Rabies* is continued in reference to pathology and treatment. Then follows an article comprising an account of the diseases which affect the *Rectum* and *Anus*, as well as their treatment. A considerable space is assigned to the subject of *Rheumatism*, which is ably treated. The other articles are on *Rickets*, *Roseola*, *Rubeola*, *Rumination* (in the human subject), *Rupia*, *Scarlatina*, and *Scirrhous Tumors*. Dr. Copland has evidently bestowed great care on the composition of the article on scarlet fever: it may be regarded as a complete essay on this formidable disease. The practitioner will here find in a concise and well-arranged form all the information which he needs for his guidance, whether he refer to the work for the history, diagnosis, or treatment of the disease. The bibliography appended to this valuable article commences from the year 1620, and comprises a long list of medical works in reference to scarlet fever. The article on *Scirrhous Tumors* is not completed, and we shall therefore reserve our remarks upon it.

Although the publication proceeds slowly, we are bound to consider the enormous labour which it must entail upon any one writer to bring together so large an amount of information on a variety of subjects, as is contained in each part of this Dictionary. Nevertheless, it has been for so many years before the public, that even this plea is only grudgingly admitted by the early subscribers. The principal letters now remaining are T and W, and we hope that they are not far distant. In the meantime we willingly bear testimony to the fact that each successive part furnishes proofs of the industry and ability of the writer.

The Cyclopædia of Anatomy and Physiology. Edited by R. B. Todd, M.D., F.R.S., &c. Part XXXVII. October, 1849. London: Longmans. 1849.

We must remind our readers of the progressive advancement of this excellent publication. The part before us is rich in articles on Physiology and Comparative Anatomy. Dr. Guy contributes a paper on *Medical Statistics*, which gives a good outline of the application of the numerical method to medicine. As we are not sure that all of our readers comprehend what is to be understood by the numerical or statistical method, we may here quote Dr. Guy's definition. According to him it is "a science which prescribes rules for the bringing together of scattered observations, arranging them in classes, testing their sufficiency in point of number, and deducing from

them when so arranged, average and extreme results fitted by their very condensation to become standards of comparison and data for reasoning." A series of illustrative tables is appended to this paper, which will be found useful as furnishing examples of the mode of applying the numerical method to medical inquiries. The surgical anatomy of the *Subclavian Arteries* is well given by Dr. M'Dowell, and the Anatomy of the *Supra-renal Capsules* in man and animals by Professor Frey. This paper has been translated from the original German by Dr. Brinton. Dr. G. O. Rees furnishes two papers, on *Sweat* and *Synovia*, containing facts and observations of interest to the physiologist and chemical pathologist. Dr. Todd has contributed a short paper on *Sympathy*, and Dr. Carpenter one on the sense of *Taste*. The most elaborate paper in this part is that which has been written by Professor Owen on the *Teeth*. It fills nearly one half of the number, and it will be continued in the succeeding part. We shall only observe that it contains a very comprehensive account of the anatomy and physiology of the teeth in all classes of animals. The illustrations which accompany the article are numerous and well-executed.

From this brief notice of the contents of the thiry-eighth part, our readers will perceive that there has been a judicious selection of subjects, and that the preparation of the papers has been entrusted to men whose names are a guarantee of the value of their contributions.

The Microscopic Anatomy of the Human Body in Health and Disease; illustrated with numerous drawings in colour. By ARTHUR HILL HASSALL, M.B. Parts XI. XII. XIII. XIV. XV. The work complete in 2 vols. 8vo. pp. 570. London: Highley. 1848-9.

THE parts of this work from II. to IX. inclusive, were noticed in the MEDICAL GAZETTE for July 23d, 1847.* The whole publication has extended over a period of three years, and it has been recently completed by the publication of Part XV.

Parts XII. and XIII. treat of the microscopical anatomy of the *Nerves* and *Glands*; Part XIV. is entirely devoted to coloured illustrations of the various glandular structures; and Part XV., besides numerous plates, gives an account of the microscopic anatomy of the *Organs of the Senses*.

In our former notice, we spoke favourably of the labours of Mr. Hassall in a new and important field of medical inquiry. We see no reason to alter our opinion on this occasion: the last four numbers are quite equal to any that have preceded them. We congratulate the author upon the conclusion of his arduous labours, and recommend his book to our readers, with a quotation from our former notice. The subjects which he has treated "are rendered highly interesting, not only by their intrinsic importance, but by the author's lucid style of description, and by the aptness which he has shewn in applying the facts of microscopic anatomy to the illustration of many important subjects in physiology, diagnosis, therapeutics, and medical jurisprudence."

Medical Portraits. 1849.

WE have received three portraits of the series executed in lithography by Mr. Maguire. Two of these are portraits of Mr. Avery and Mr. Hancock. We can speak of them with commendation as admirably executed drawings, equal to any of the former productions of the same artist's pencil. The third portrait is a profile likeness of John Hunter, and it cannot fail to have an especial interest for the profession. It is stated to have been taken from a pencil drawing by Sir Nathaniel Holland, in 1793, and now in the possession of the Royal College of Surgeons of England. It was presented to the College by Capt. Sir Everard Home, Bart., in July, 1849. The features present a mild and placid expression, mixed with that thoughtfulness which characterized the great original. This portrait should be in the library of every practitioner who has a feeling of veneration for the great celebrities of medicine and surgery.

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* See vol. xl. page 164.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, October 22, 1849.

Mr. Hancock, President.

Cholera at Alnwick.

Mr. Dunn read a letter from Mr. John Davison, of Alnwick, respecting the progress of cholera in that town. It made its first appearance on the morning of the 23d of September, at three o'clock, and before ten there were at least 100 cases in the town. The first person seized was a labourer, who had not drunk water, except in beer and spirits, for several years; the next case was that of a milliner, who worked in a close, ill-ventilated apartment. No cause could be assigned for its attacking these individuals; but the disease was mainly confined for some time to the dirty, ill-ventilated, and ill-drained part of the town. It was curious, too, that in one part where the houses had only windows in front, the disease was rife; but where there was an opportunity of ventilation by back windows, the disease was comparatively rare. Mr. Davison went on to say, that the lower parts of the town had escaped, which may be attributed to two causes—First, in consequence of the orders from the Board of Health, I examined every ash-pit, pigsty, and privy personally, and had them all cleansed and lime-washed the week before. The tunnel, or the yard, which formerly belonged to the late Richard Moon, I also similarly treated: in this latter place I found 149 people occupying fifteen rooms! Of course they were turned out, otherwise this would have been the place where we should first have had the disease. In the second place, at the higher part of the town, where the disease has been so prevalent, there are, besides the aforesaid nuisances, an immense number of small sewers, all of which I believe to be in a most filthy condition. In conclusion, I have seen a few cases where there have not been any premonitory symptoms, but the people have fallen in an instant, and when called to them a few minutes afterwards, have found them in a state resembling asphyxia, from which they rarely recovered. As to the cause, I do not believe the water has anything to do with it. In the case of the railway labourer which I have mentioned, I find he had not tasted water, excepting in the shape of ale or spirits, for several years! Children also, who have never tasted anything excepting their mothers' milk, have frequently taken the disease, and died. My idea is, that those localities, from the filth which surrounds them, and the dwellings so ill-ventilated, have long been in a condition ready to receive or be acted upon by the close and peculiar atmosphere which surrounded the town during the first week of the cholera. I do not believe that filth, or any such cause alone, will produce it, unless this state of the atmosphere be present. The same condition was observable when it existed, and carried off half of those whom it attacked at Bulman, about a month before. The subject of contagion was not mentioned in the letter; but it would seem that the poison might be conveyed into the lungs and stomach at once, independent of all human means.

Case of Extensive Disease of the Kidney.

Mr. Linnecar stated that the subject of this case was a boy, aged two years and ten months. Until he was twelve months old he had uninterrupted good health, except a very scanty renal secretion. During the following six months he suffered from convulsions, arising from dentition. When eighteen months old, he was sent into the country, and was again convulsed. About this time it was observed that his abdomen had become disproportionably large, and he made small quantities of urine. With this exception, the impression of his mother was that he was in perfect health. In March last he had an attack of tertian ague, of short duration. Soon after this the cervical glands were found indurated and enlarged, and the superficial veins of the head and neck were peculiarly distinct. His complexion, before somewhat rosy, became pale, and his skin loose. He evinced less disposition to join in play with the other children, and appeared fatigued with little exercise. He had restless nights, and his eyes were sunken; but as his appetite continued good, no particular alarm was excited until near the end of July, when the mother's fears were aroused by the discovery that the lower part of the right side of the abdomen was not only tumid, but firm and resisting on the application of the hand. When examined, the abdomen was found enlarged. It was dull on percussion throughout the right half, extending a little to the left of the mesial line above and below the umbilicus; the only exception to this being, that a sulcus existed on the right side, in a line with the navel, which emitted a clear sound on percussion. The firm portion of the right half appeared to consist of two tumors, separated by a gap large enough to admit the middle finger. The upper portion of the tumor, or what appeared to be the upper tumor, stood forward more prominently than any other part, and presented the size and shape of an ordinary lemon; this was in close apposition with the liver, and was at first supposed to involve the substance of that organ.

Passing the hand backwards, and in the course of this swelling, it was found to be continued as far as the vertebral column. The lower portion of the tumor occupied the whole of the right iliac fossa, and extended some way behind the pubes, pushing upwards and to the left the small intestines. Above, it appeared to commence about half an inch below the umbilicus, and to pass backwards to the vertebral column. The tumor had not a perfectly smooth feel when first examined, but rather a nodulated one, as if made up of a number of smaller bodies. The child was somewhat emaciated, and his complexion pale; the superficial veins of the abdomen, chest, neck, and head, were large and well marked. He ate freely, and his bowels were free from disorder. Pressure on the affected part did not induce pain, and he appeared, when restless, to derive comfort from gentle friction over this part with the hand. In the month of August the little patient was seen by a physician, whose opinion was, that the tumor was made up of acephalocysts. To relieve pain, and support the system, appeared to be the only indications in his case; and with that view fomentations and poultices were applied, vegetable tonics prescribed, and opiates were given at bedtime, with occasional aperients as circumstances required. On the 5th of September he was seen by Mr. Hilton, who at once strongly suspected the disease to be a fungoid affection of the right kidney. After this his bowels became unsettled; he had a troublesome cough, and a few days before he died, blood, clotted and diffused through the urine, was discharged from the bladder. He appeared more comfortable than usual on the day of his death, until about seven o'clock in the evening, when he was seized with convulsions, and died. The body was inspected sixteen hours after death. It was much emaciated, and the superficial veins of the abdomen, chest, neck, and head, were well marked. The abdomen was tumid, firm, and dull on percussion throughout the right half; the same firmness and the same dulness extended to the left of the mesial line above and below the umbilicus; there was resonance on percussion in the left hypochondriac and iliac regions. The lower extremities were œdematous; the left more swollen than the right. The lower ribs stood forwards and outwards on both sides; the abdominal walls was very thin; there was very little effusion into the peritoneal cavity; omentum destitute of fat. When the abdomen was opened, a firm elastic tumor presented itself, occupying the whole right half of that cavity, and extending over to the left half at a distance of about two inches above the umbilicus, and a little more than this, below that point, pushing the stomach outwards superiorly, and the small intestines inferiorly. This tumor was separated into two portions by a deep sulcus about one inch and a half in depth, along which ran a considerable vein. At its upper extremity it was firmly adherent to the whole under surface of the right lobe of the liver; and, to the lower portion of the mass, the ascending colon, and about two-thirds of the arch, were closely united; the vermiform process hanging loose. On passing the hand bebetween the abdominal parietes and the tumor, it was led by the latter to the vertebral column posteriorly; to the diaphragm and under surface of the liver superiorly; and below, across the right iliac fossa and hypogastrium. It had formed no attachment to the small intestines, or to the anterior surface of the urinary bladder. The right and left lungs were perfectly free in the cavity of the chest, but studded with deposits of a substance in all respects resembling the substance of the diseased mass in the abdomen; heart, pericardium, and pleura, perfectly healthy. The right lobe of the liver contained a morbid deposit of a character corresponding with that found elsewhere. The mesenteric glands were choked with the same substance; the other viscera were healthy. The tumor, on being detached and removed, weighed five pounds and a quarter. Left kidney and vessels normal.

Mr. Hilton said the case was one of medullary fungoid disease of the kidney; the same disease affected the liver, lungs, and abdominal parietes. The reason he had given his opinion that the organ affected was not the liver, was, that he found the tumor situated in the lumbar region, above the crest of the ilium, and he could not detect the edge of the liver; but chiefly in consequence of a portion of intestine lying in front of the tumor, which was evidenced by its being resonant on percussion. He had always found this to be a good diagnostic mark of kidney disease. There was not, on the other hand, the dense thrill under percussion, or the distinct fluctuation, found in hydatid tumors. One symptom of kidney disease was absent; it was true, no blood had passed with the urine; but just before death blood and matter were voided. The absence of such a symptom before was to be attributed to the disease not projecting into the ureter.

Mr. Linnecar said that the questions to be decided, in regard to diagnosis, were—Was the disease in the liver, the kidney, or did it consist of an independent adventitious growth? In answer to the first, the tumor began from below, and could not be the liver; and in regard to hydatids, he had never seen them in so young a subject.

Medical Trials and Inquests.

ALLEGED MURDER FROM WOUNDS OF THE GENITAL ORGANS IN A FEMALE.

(*Reported by Dr. Ogston, Aberdeen.*)

[The following case, which, from the accuracy of the medical report, is of great interest in Medical Jurisprudence, was tried at the Circuit Court of Justiciary, Aberdeen, on Wednesday, September 19th. The crime for which the prisoners were tried has been frequent in Scotland:—]

William Clark and *Janet Gray* or *Thompson*, were charged with the crime of murder. The indictment set forth that, on Thursday, the 5th July, on the road leading from Ellon to Esslemont, near the house of George Scorgie, labourer at Craighall, the prisoners did wickedly and feloniously attack and assault the now deceased Elizabeth or Bridget Conlie or Conolly, or Clark, wife, or reputed wife, of the prisoner William Clark, and did knock or force her down, and did, with a knife or razor, or some other instrument, on the lower part of her belly inflict two or more severe wounds, to the great effusion of her blood, by which she was mortally injured, and in consequence died immediately thereafter, and was thus murdered, &c.

The prisoners pled Not Guilty. A jury was consequently empanelled, and the proof was entered upon.

After the preliminary legal evidence, it was proved by the evidence of several witnesses that the deceased had been seen on the high road in company with the prisoners, and that she had complained of ill treatment which she had sustained from her reputed husband, the prisoner Clark. The main facts against the prisoners will be understood from the evidence of Dr. Reid, who said he was a surgeon residing in Ellon.

On July 5 witness was riding to the north of Ellon. Remembers seeing some people about two miles to the north of Ellon—two men and two women, with some children. Could not say positively that the prisoners were of the number, but thinks so. Saw them in the forenoon. Next time saw the woman, between five and six. She came to witness' house. She was not sober when she came. She wished witness to go and see a woman who was lying at the side of the road. Said that she was threatening or had had abortion. Witness went away with her. The man also came, before witness left the house. He said the same—also spoke of an abortion. The male prisoner is the man. Found a woman on the road side, about forty or fifty yards to the west of Scorgie's house. There were also some children there, running about. The woman was lying in the ditch on the road side, her head towards the dyke. She was covered with a cloak—it was over her head. Her legs were drawn up and bent, the knees lying separated. She was speechless and quite insensible. She was lying in a great pool of blood. The blood was coming from the private parts. Witness first endeavoured to stop the flow of blood—there was very little blood coming then, it had almost stopped. After stopping the blood as far as he could, witness left for assistance. Gave directions to the woman to support the patient's head. Does not think either of the prisoners said how long the woman had been unwell. Neither of the prisoners made any further remarks about the woman's disease. Witness went and got Constable Cooper and Mr. Cumming, the veterinary surgeon. When witness returned, the woman's head was down into the ditch. The female prisoner was sitting on her head.

Mr. Shand said it was incompetent for the public prosecutor to prove mal-treatment, except according to the manner specified in the indictment.

Mr. Maitland said he had no intention to prove murder as the consequence of this mal-treatment.

Dr. Reid's examination was then proceeded with. I pulled the woman off from the deceased, and had the latter conveyed to the nearest house. I attempted to give her a little brandy, but she could not swallow it. I then made use of warm applications, and such remedial means as I thought likely to be of service, but the woman died in the course of about ten minutes. I examined the body externally that night, and found some slight bruises on the brow, the thigh, and the left arm. The body was then taken to the church of Ellon. Was present next day when the body was opened by Drs. Jamieson and Ogston. There were then discovered two wounds, one on the upper wall of the vagina, and the other on the left wall, almost meeting the first—both within. They appeared fully to explain the large quantity of blood seen the night before, and to be quite sufficient to produce death. The wounds appeared to have been made by the introduction of some instrument into the part—most probably a blunt instrument, as the appearances would indicate. [Witness was here shown a razor, scissors, and a nail, and knife, and said any of them would produce the wounds he had seen. The razor might, if used in a particular manner]. I, witness proceeded, immediately after the woman's death, examined the road where she had been lying. Found nothing there by which she could have accidentally met with the wounds. Went back next day with the Aberdeen doctors, and found fragments of a broken

bowl. Found no blood upon these pieces. It did not appear to me that they could have inflicted the injury. [The fragments of the bowl were here handed up to the bench, and examined by their Lordships]. When I was coming over with the female prisoner, she said, "there was nothing the matter with the other woman—that she would be much the better of a good beating—and that if he (witness) would not do it, would he allow her?" This was before I saw the woman lying in the ditch.

Cross-examined by Mr. Shand—I think it possible that the woman, by sitting down on a sharp instrument or the like, might have inflicted such wounds; but the fragments of any broken vessel would not have penetrated so far.

Elizabeth Clark, a little girl, about eleven, a daughter of the male prisoner, said. Her mother's name was Bridget Conolly. Had seen the female prisoner. When asked if she minded upon her mother receiving any hurt, she hesitated, and then, in answer to another question, said she minded upon being on the roadside on the other side of Ellon. Her father and that woman (the female prisoner) and her mother were beside her. Her brothers and sisters were there, but witness was not there at the time it happened. She is the oldest. Saw nothing happen to mother. Witness was not there. She was away for whisky. Went to the inn beside the bridge for it. Got the whisky and came back with it. Her mother was there when she came back. She was lying bleeding. Saw a bowl there. The woman (the female prisoner) broke it on her (the witness's) head. She did that because witness "tellt her to gae out ower frae her mother," when she was lying bleeding. It was her mother that sent her for the whisky.

Dr. Ogston was then sworn. He deponed to the following effect:—I went, on the 6th of July, to examine the body of a woman in the church; Dr. Jamieson of Aberdeen was along with me; Dr. Reid accompanied us. Dr. Jamieson and I drew up a report, which I identify. The report was read. It deponed to a blue discolouration on the forehead of the body, and a similar and partly grazed one on the left arm; a bruise on the outside of the right thigh, and an abrasion of the skin on the shin. When cut into, these bruises showed thin layers of clotted blood. There was a moderate quantity of blood outside and inside the private parts, and, on its being removed, two lacerated ragged wounds were found in the vagina—one about an inch, and the other about an inch and a quarter long. They were roughly calculated at about half of that depth. There was no appearance of disease about the body, which was, except about the heart, pale and bloodless. The womb contained a fœtus, apparently about six months advanced. It, as well as the rest of the womb, was in a healthy state. A spirituous liquor was found in the stomach. The cause of death was hæmorrhage, proceeding from the lacerations within the entrance to the private parts, which lacerations must have been inflicted during life.

For the Defence—One of the wounds was half an inch within, and the other came to the edge.

By the Court—Deceased could have survived the wounds but a very short time—possibly, about ten minutes—she might have died in that time.

Dr. Jamieson also examined the body, and identified his report.

In their declarations the prisoners imputed the crime to each other.

The Public Prosecutor then addressed the jury at considerable length, pointing out the strong evidence that existed of the guilt of both; the false statements that they had made unnecessarily to lead to a mistaken view of the cause of the woman's death; the fact that each charged the other with being the cause of the unfortunate woman's death; and impressing them with the necessity of returning a verdict of guilty, art and part, against both prisoners at the bar.

Mr. Shand, in his address in defence of the panels, argued that there existed no direct proof of either of the parties having committed any act calculated to produce the death of the woman; and that if the jury were not prepared to say that the particular crime charged in the indictment had been committed by the prisoners in the manner therein specified, they could find no verdict against them. No evidence of this kind existed; nor was it sufficient to say that one or other of them must have been guilty, and that, therefore, a verdict must be returned against both. The jury must be distinctly and infallibly satisfied that the person, he or she, against whom they brought in a verdict, had actually done the deed. The fact of the prisoners' running for a medical man, who must have discovered the cause of death, was conclusive proof of their innocence. It had not been clearly proven that the deceased met her death by violence. It was no business of his to say how she had met it, but he had supposed a case which Dr. Reid had allowed to be quite possible. The learned gentleman proceeded to argue that it was impossible, under the circumstances, to find the charge proven against either of the prisoners.

Lord Moncrieff then proceeded to sum up the evidence. The general complexion of the case, he thought, was of such a nature that they could be in no doubt that the woman had died in consequence of the wounds in her secret parts, mentioned in the indict-

ment; and it had been proved in the evidence that she died in consequence of bleeding produced by these wounds. There was no ambiguity in that. And then it was further very clear that no other person was in her company than these two persons; that the wounds must have been inflicted by some such instrument as the medical men described, and as was found in the possession of the prisoners; and that this woman met her death, in some way or other, by wounds inflicted in the interior of her body by some such instrument. Then, gentlemen, it is also quite clear, upon all the evidence, that she must have died in a very short time after these wounds were inflicted; for, besides that Dr. Reid says she might live ten minutes or a quarter of an hour, and not much more, it is quite clear that it must have been done during the time the child was away to get the whisky, as on coming back she found her lying on the ground bleeding. Now, that is the general complexion of the case. It really is a difficult point to say that she so died without violence on the part of either of the prisoners. He needed not to disguise that there were difficulties in the case. If the prosecutor had left the case in such mystery that they could not tell how or by whom the crime was committed, they could not convict the prisoners; but they must look to the evidence and to the conduct of the prisoners. And then, to be sure, there was a difficulty in this, that the deed might have been done by one of them, without the concurrence of the other. Still, as men of common sense, they must judge if the evidence, on the whole, was not such that it must have been done by both, or by one, the other aiding and assisting. His lordship proceeded to read through the principal portions of the evidence, commenting on it as he went along. It was said by the prisoners' counsel, that there could be no motive to the commission of this crime. Now, the male prisoner was travelling with a woman who was not his wife, and the female prisoner was associating with a man who was the husband of another woman; and they would perfectly see here grounds for motives enough, if there were a criminal disposition. Supposing that the male prisoner never lifted a hand to his wife before, this gave rise to serious observation. He had changed his line of conduct towards her and associated with another woman, and this association caused this change of conduct. Prisoners' counsel had said that it was a favourable symptom for the prisoners that they had gone for the doctor. He was afraid this was a doubtful inference. The woman first, and then the man, attributed her indisposition to an abortion. If it could be taken for granted that they expected the doctor to discover what had taken place, then the plea would stand, but not unless. It was evident that they wished and expected him to believe their story about abortion. There was no doubt that this woman lost her life by the hæmorrhage produced by laceration; they could not doubt that. There was nobody about her but these two prisoners, and by one or other, or both, these wounds must have been inflicted, and there was some ground for thinking that it could not be very well done by one, or, at least, that it might have required assistance. However, so it was that it was done, and that the woman died in a quarter of an hour in consequence. It was clear that both prisoners must have been near by at the time, and he left it in the hands of the jury, with this further observation, that he would not conceal that there was some difficulty which could not be avoided. The prisoners were entitled to the benefit of any mystery or doubt. The evidence very directly showed, however, that the act was perpetrated within a very short time, and by one or other, or both, of the prisoners, and it was for them to judge whether one or the other, or both, were guilty.

The jury retired; and returned, after an absence of about an hour, with the following verdict:—"The jury unanimously find the charge of murder in the indictment Not Proven."

We subjoin a copy of the notes made by the reporters at the inspection of the body of the deceased:—

"Ellon, July 6, 1849.

"We, the undersigned, proceeded at noon this day to inspect the body of Betsy Conlie, or Conolly, vagrant, then lying in the parish church of Ellon, in the county of Aberdeen, when the following appearances presented themselves:—The mouth and eyelids were closed; the face, lips, and general surface in front of the body, pale; the pupils natural; the joints rigid; the back of the head, the shoulders, and the dependent parts of the trunk, except where it rested, livid. Expression of the features placid, but evidently that of one of the lower order of Irish; fingers slightly bent; linea albicantes on the belly; nipples pale, and breasts but little bulky; a very slight lividity on the centre of the forehead, over an oval space which measured an inch and a half in its greatest (its vertical) diameter. On the outside of the left forearm, about three inches below the elbow, a livid spot, of an irregular shape, measuring in greatest breadth about an inch; on the outside of the right thigh, about three inches below the trochanter, an irregular bluish spot of about three inches by three-quarters of an inch in extent. On the front of the left leg,

over the middle of the shin, was an abrasion of the skin, of an irregular shape, which measured about half an inch in greatest diameter. None of these discoloured spots were elevated above the level of the surrounding integuments: that on the outside of the forearm was greenish, and the one on the forehead was very indistinctly marked. The abrasion on the skin was bloody, and apparently recent. There was a moderate quantity of blood (partly clotted) about the vulva, the upper and inner parts of the thighs, and between the nates. No other marks of violence on the exterior of the body. The body was spare, well formed, and free from any trace of decomposition. On cutting down on the discoloured spots, clotted blood, but in very spare quantities, was found under the integuments of each of them, as also under the abrasion of the skin. On turning back the integuments of the head, a small roundish clot of blood, effused in a thin layer, was noticed under the left temporal fascia, about its middle, which did not exceed half an inch in breadth; a spot of the same size, with clotted blood, on the inner surface of the integuments, over the occipital protuberance. Neither of these two spots had any corresponding discolouration on the skin outside them. Scalp otherwise natural. Unusual paleness of the brain throughout, and emptiness of the vessels within the head. Contents of the skull otherwise normal. Nothing unusual about the mouth, throat, gullet, or air-passages, except a marked degree of paleness of their surfaces. Organs within the chest healthy. Blood in considerable quantity on both sides of the heart, and the large vessels connected with it; a small fibrinous clot in the left auricle; the blood in the heart otherwise fluid. On opening the cavity of the belly, the intestinal tract throughout the liver, spleen, and kidneys, were all observed to be unusually pale and bloodless, as were the uterus, bladder, and pancreas. The womb was enlarged, measuring about eight inches from its cervix to its fundus, and reaching about an inch above the navel. The bladder was full of clear urine. The stomach contained some fluid, which had a distinctly spirituous odour. The contents of the stomach were poured into a phial, which was stoppered, labelled, signed, and sealed by us. On washing away the blood about the vulva, some injury was observed at the entrance to the vagina. In order to ascertain the extent of this injury, the vulva, and the whole of the soft parts within the pelvis, with the uterus and its contents, were carefully removed. On now inspecting the external genitals and neighbouring parts, we discovered two rents or lacerated wounds of these parts: the one transverse, half an inch within the external orifice of the vagina, and in its upper wall; the other on the inside of the entrance to the vagina, and in its left wall, taking a direction nearly vertical. The edges of these rents or lacerations were very irregular, and the soft parts which were thus divided were very irregularly torn. The first-mentioned of these rents measured across the vagina about an inch and a quarter; the other rent measured about an inch in length, extending from the posterior commissure of the vulva to within an eighth of an inch of the left extremity of the other. The urethra was observed exposed at the bottom of the upper laceration, but had escaped injury. On these rents being first noticed by us, they appeared as irregular gaping wounds, covered with clotted blood. On examining them detached from the body, we found, besides the external effusion, several clots of blood in the loose cellular tissue around the exterior end of the vagina, and on the inside of the left labium pudendi, with general bloody infiltration of the tissues in both situations in the vicinity of the wounds. The depth of the lacerations could not be ascertained with any approach to precision, and varied at different parts of their traject, but apparently their greatest depth may be stated approximatively as not far from one-half of their respective lengths. No vessels distinguishable by their size appeared to have been involved in these lacerations. The upper part of the vagina was natural, without any blood in this part of the canal. The os tincæ was closed. The womb contained a female fœtus or infant, eleven inches and a half long, and weighing 2 lbs. 3 oz. The contents of the uterus, including the fœtus, were normal, except that the external surface of the infant was pale. The general cellular tissue and the muscles exposed in the dissection of the woman's body were observed to be paler than usual, and free from blood. The upper part of the spine and the spinal cord were natural.

(Signed) "J. Jamieson,
"F. Ogston,
"James Hutchison,
"James Reid."

"Before proceeding to the above inspection we examined the ditch, &c. &c. We found several large clots of blood in the ditch there, a portion of which we removed, sealed up, and labelled. Subsequent to the inspection we examined a cotton shift, a white woven woollen petticoat, a blue cloth ditto, a tartan gown, or parts of them, on all which were clots of blood. To a label attached to these we signed our names."

(Signed as above.)

[The following conclusions from the inspection are taken from a copy of the official report presented and read at the trial:—]

"We further certify, on soul and conscience, that from the above inspection of the body of Conlie, we concluded that the abrasion of the skin, the effused blood under the scalp, and the discolourations on the surfaces of the forehead, left forearm, and right thigh, had all been produced at, or shortly before, the extinction of life (with the exception of the discolouration of the forearm, which was of somewhat longer standing), and that all of them had been the effects of external injuries, insufficient, either singly or combined, to account for the woman's death; that her death had been caused by hæmorrhage or loss of blood proceeding from the lacerations or wounds within the entrance to the private parts; and that these lacerations must have resulted from external violence inflicted during life, but of what particular kind we had no means of determining.

(Signed) "J. Jamieson, M.D.
"F. Ogston, M.D."

*** That the deceased died from the wounds inflicted on the genital organs appears to have been conclusively proved by the medical evidence. That these wounds were not accidentally or self-inflicted, is, we think, equally obvious. Their situation in a concealed part of the body indicated malicious design, and a deliberate attempt to inflict a mortal injury. That one or both of the prisoners were concerned in this homicidal act cannot be doubted, if we believe the general and circumstantial evidence; but there was nothing to fix the crime conclusively on either. The verdict of "not proven" indicates that this view was taken by the jury.

It was ingeniously urged by their counsel that it was not sufficient to say that one or both of the prisoners must have been guilty, and therefore a verdict must be returned against both. "The jury," he argued, "must be distinctly and infallibly satisfied that the person, he or she, against whom they brought in a verdict, had actually done the deed." The jury probably felt that it was impossible to fix the act of cutting or stabbing upon either of the prisoners. The judge remarked that the deed might have been done by one of them without the concurrence of the other; and to the doubt thus suggested, *i. e.* the possibility of one of the two being innocent of the knowledge of the murder at the time, the prisoners owed their escape. There was no evidenc to show that the act which caused death had been perpetrated by *both* or by one, the other aiding and assisting.

In the case of the Mannings, recently tried in this metropolis, it could not be proved *who* inflicted the injuries which caused death; but there was abundant evidence to show that the *two* prisoners must have concurred in the act of murder, either by the joint infliction of violence, or by one aiding and assisting the other during and after the perpetration of the crime.

COUNTY COURT, WESTMINSTER,

October 16, 1849.

Before Mr. Moylan, Judge.

Lord v. *Wakley.*

NON-LIABILITY OF CORONERS FOR THEIR OWN NEGLECT.

Mr. Couch appeared for the plaintiff in this case, which was for the recovery of one guinea, due by the defendant under the following circumstances, as stated by the learned gentleman:—Mr. Lord is a medical gentleman residing at Hampstead, and the claim is for one guinea, as his fee for attending and giving evidence at an inquest. Defendant is the son of the Coroner for Middlesex, and is also the Deputy Coroner. On the 24th of August an inquest was held at the Yorkshire Grey public house, at Hampstéad, on the body of a female. Mr. Lord had been her medical attendant during her illness. The jury were assembled and the inquest was being proceeded with. Mr. Lord had not received a regular summons to attend, but the Deputy Coroner sent the summoning officer to request plaintiff's attendance. Upon that Mr. Lord presented himself, and was examined as a witness, giving his opinion that the cause of the deceased's death was cholera. After plaintiff had offered his opinion, the Deputy Coroner proceeded to put certain questions to Mr. Lord, as to his mode of treating the patient, and the plaintiff considering that defendant had no right to propose such questions, and that plaintiff was not bound to answer them, it being no part of the defendant's duty to go into the whole medical treatment, the plaintiff refused to answer. The Deputy Coroner thereupon adjourned the inquest, and directed a post-mortem examination to be made. At the adjourned inquest a verdict was returned that the deceased died of cholera. Subsequently to this, the Deputy Coroner refused to allow the guinea which the law allows to medical men for attending and giving evidence at an

inquest. Counsel here called the attention of the Court to two acts of Parliament, the 1st Victoria, cap. 89. Up to that time the law in this respect was very defective. It gave power to the Coroner to order the attendance of a medical witness, or the medical attendant of the deceased person, and provided that if he neglected so to attend he was subject to a penalty of £5; and then, by the third section, it provided that such witness should be entitled to a fee of one guinea, or two guineas if a post-mortem examination were made. Now, it is quite true that there was no order made on the part of the Deputy Coroner; but, nevertheless, he attended at the request of the defendant, and, as I contend, thus became entitled to the fee provided for by the Act.

His Honour asked whether it was a verbal or written request.

Mr. Couch.—Verbal; but still I contend that plaintiff attended there at the request of the Coroner, and is, therefore, in point of law, entitled to the fee. But the defendant may say that the plaintiff is not entitled because he refused to answer certain questions. Here, however, the Deputy Coroner had his remedy, for undoubtedly he had the power to commit a witness who refused to answer questions.

His Honour.—But has he such power where there is no summons?

Mr. Couch.—Yes, if the witness appears for the purpose of giving evidence and then declines. The passage bearing on this is in 1 Chitty, p. 164; and also in Burn's Justice. The proper course for the Deputy Coroner to pursue was, not to refuse plaintiff his fee, but to commit him for contempt. So that Mr. Lord having attended and given evidence, he comes here, not for the sake of the guinea, but he comes here, as from the Medical Protection Society, and desires this public question, so far as the medical profession is concerned, to be settled by your Court. These are the facts of the case; and I shall now call your Honour's attention to the 1st Act, providing that the Coroner is to make an order on the churchwardens and overseers of the parish for the medical witness's fee.

His Honour.—Out of the funds for the relief of the poor?

Mr. Couch.—Yes; and if that Act had remained on the Statutes, Mr. Lord, I admit, could not have come here. But the 1st Vic. cap. lxviii. repealed so much of the former Act as related to this point, and in lieu thereof provided that the Coroner should, at the end of the proceedings, advance and pay such fee to every witness allowed under the provisions of the said Act; and therefore we say, that if the case stands under these Acts, the plaintiff is entitled to the fee. But I put the case in another form, anticipating what the line of defence may be. If it is contended that the case does not come within the Statute, because there was no order for the plaintiff's attendance, then I say, Mr. Lord having attended at the request of the Deputy Coroner, when he was not bound to attend, and when, in law, if he refused, the inquest must have been adjourned for want of evidence, the plaintiff having so attended he becomes entitled to remuneration for such attendance, and now seeks it at the hands of the defendant. So that either way, under the Act of Parliament, if the request for attendance is equivalent to an order, or as having performed an act at the request of the defendant, which he was not bound to perform, I contend the plaintiff is entitled to the fee provided by Act of Parliament, or to remuneration for his attendance. I shall now proceed to prove the facts of the case.

His Honour.—I think it might save time if the defendant would just state the line of defence he relies on.

Defendant, who appeared in person, said I object to this claim, your Honour, on account of the informality of the summons. The summons omits the Christian name; is addressed to me at No. 1, Bedford Street, Covent Garden, which is not my place of abode; and is also addressed to the Coroner, while I am only Deputy Coroner.

Mr. Couch.—My answer to this is, that the defendant's appearing waives all objection on account of defects in the summons.

His Honour.—By the Act the plaintiff is bound to give the Christian name, surname, occupation, and residence of the defendant; and if he fails in this, the case must fall to the ground.

Mr. Couch.—But here he does give the residence.

Defendant.—The residence given is the Coroner's office, not my abode.

His Honour.—Yes; but that must also be taken to be the office of the Deputy Coroner.

Mr. Couch.—I apprehend that it is not a substantial difference, calling this gentleman the Coroner. We are not bound to call him the Coroner or the Deputy Coroner in the summons; that is mere surplusage.

His Honour.—Without going into this informality, but judging by the facts of the case, it is my opinion that an order for the attendance of a witness is indispensable towards his claiming the fee.

Mr. Couch.—But surely the medical man having attended at the request of the Deputy Coroner, the law would make the party at whose request he attends liable for the fee. But supposing that the defendant, or myself for instance, were engaged in a cause, and I went and requested the attendance of a witness, and he does so attend,

surely he is as much entitled to compensation as if I had secured him through any other means.

His Honour.—But then the question arises whether he does what he was requested to do.

Mr. Couch.—I say that the plaintiff attended, and gave all the evidence which was to be expected of him.

His Honour.—Yes; but you are not to judge of that.

Mr. Couch.—No; but this Court is to judge of it. We can show that he gave evidence, and all the evidence that was proper to be given.

His Honour.—But I understood that he refused.

Mr. Couch.—He refused to answer as to his mode of treating the patient, it being, as he considered, extraneous to the matter under inquiry, and one which would lead to a discussion having nothing at all to do with the cause of deceased's death.

His Honour.—But the Coroner has a right to ask questions.

Mr. Couch.—Then if he had that right, and the witness refused to answer, the course of the Deputy Coroner was to commit the witness.

His Honour.—Beyond all question, the Coroner could not have committed him, not having issued an order for his attendance.

Mr. Couch.—There is no evidence to show that the witness having appeared, the Coroner could not commit him for refusing to go on with his evidence. The power of a judge in the Superior Courts does not depend on a subpœna having been served.

His Honour.—But here the Coroner can only inflict a penalty on any person who disobeys his order. The 6th Section applies to a case where an order is served or comes to the knowledge of the defendant, and he disobeys the order; here the Coroner may commit.

Mr. Couch.—The Act inflicts a penalty for not coming; but, independently of this, the Coroner had the power to commit. If it be said that a medical man is not to recover without a formal order is served for his attendance as a witness, then great inconvenience must arise, and in consequence inquests must be adjourned over and over, in order to get witnesses to attend.

His Honour read the enacting part of the 2d Section of the 1st Vic. It was always made a condition of proceeding that the order should be made—that a *summons* should be issued. That summons, therefore, is essential, and not having been made, I must nonsuit the plaintiff.

Mr. Couch.—Mr. Wakley should not now take advantage of the want of a summons. I have two witnesses here to prove that he said he would not take such advantage.

His Honour.—I can take no cognizance of that.

Mr. Couch.—Then the medical profession now know what to expect from Mr. Wakley's line of defence.

Defendant applied for his costs, but his Honour immediately refused to allow them. —*Medical Protection Circular.*

Correspondence.

PREMONITORY STAGE OF CHOLERA. PROOFS OF CONTAGION.

Sir,—I observe a letter in the Medical Gazette of Oct. 19th, the author of which states his disbelief in the premonitory symptoms of cholera. I think all who have seen much of the disease will allow that cases of cholera do occur in which they are absent, or of very short duration. The same, indeed, may be said of any one symptom which usually marks the disease; but in the extensive experience recently afforded me in the wards of the Royal Sea Bathing Infirmary, where 66 patients were attacked, I did not see one case in which premonitory symptoms were absent, the patients invariably suffering from diarrhœa for one or two hours before cholera developed itself. If the writer of the letter should object that mine were not cases of cholera, I should be glad to be informed what was the terrible disease, which, commencing with diarrhœa and vomiting, passed rapidly into collapse, with lividity of the surface, violent cramps, profuse cold perspiration, vomiting and purging of rice-water-like fluid, with suppression of urine, &c.?

On the question of infection I beg to state a few facts, which, though not in themselves sufficiently conclusive to form any certain data, may, in conjunction with others, be not wholly valueless.

The Royal Sea Bathing Infirmary is situated in a peculiarly healthy position, about half a mile west of the town of Margate, and is, I believe, free from any cause likely either to produce disease or to aggravate it when present; it was free from cholera, though it had existed in the neighbouring town several weeks, when a patient was allowed to visit some friends in Margate, and was brought back in the collapsed stage of cholera a few hours after. Trusting to the numerous assurances of the non-contagious nature of the disease contained in the medical periodicals, I did not take any precautions to prevent its extension, but placed the patient in a ward with others. The second case occurred not in either of the other ten male wards, but *in this one!* If this was merely a coincidence,

a still more remarkable one took place soon after in the female wards. A young woman was attacked; the other patients were removed from her ward, but a child was next seized, who lay close by the door, one ward opening into the other. The next *two cases were nurses who waited exclusively on the cholera patients!* The disease then extended its fearful ravages throughout the whole infirmary. These are a few out of many circumstances which incline me very strongly to the belief that cholera is infectious.

Trusting these remarks will meet with your acceptance, and be thought worthy of publication,—I am, sir,

Yours obediently,

A. G. Field,

Surgeon to the Royal Sea Bathing Infirmary.

Westbrook, near Margate,
October 29th, 1849.

*** Mr. Waddington is, we believe, wrong in his view that cholera never has a premonitory or diarrhœal stage. The experience of the profession is quite opposed to the admission of such a view.

ON THE NUTRITIVE PROPERTIES OF FISH OIL.

Sir,—Of the virtues of cod liver oil there can be now no question;—and it seems capable of doing two things. In the first place it fattens, and adds to the bulk of the body: and, in the second place, it gives nutrition a better turn, as it were; it makes the fluids and solids healthier as well as bulkier, and enables them to throw off a variety of cachectic derangements. These useful qualities have been partially accounted for on the supposition that they are due to a minute quantity of some biliary principle contained in the oil. This supposition seemed to me extremely improbable, especially on considering the numerous adulterations to which the oil was liable; and accordingly I determined on making a few experiments on the subject, the results of which I beg to forward to you.

For this purpose I applied to my oilman for some specimens of the purest and sweetest lamp oil, and procured several varieties of whale and seal oil, decidedly fishy and rank in flavour, but not rancid or oxydized or putrescent. In fact, the flavour of the oil commonly called "southern oil," the produce of the black whale, which I chiefly employed, is not disagreeable to any one who is free from fancies on the subject; and if mixed with three or four parts of almond oil, is not a whit more offensive to the taste than the common *oleum jecoris aselli*.

Case I. and II.—Two brothers, S., aged 3 and 5, flabby pasty children, each suffering from pustular eruption on the head and face. A wound made on the head of one of them a week since had degenerated into a flabby sore. No deficiency of food. Both took a tea-spoonful of seal oil three times a day in lemonade. Their mother reports that they were excessively fond of their medicine; they took it for a fortnight, when the skin of each was quite healthy, and complexion clear.

III.—J. W., a pale unhealthy child, aged 2½ years; subject to pustular eruptions on the face. Cured by the same dose of southern oil, thrice daily for a week. Cured far more readily than on former occasions by calomel. Likes the oil extremely.

IV.—J. L., a miserable child; glands in neck greatly enlarged; purulent discharge from ears; abdomen swelled and hard. This child got better under the use of seal oil, but did not take it regularly enough to make the case of any value.

V.—J. E., aged 2, subject to skin disease from birth; his mother has had syphilis; his complexion peculiarly pasty and sallow. Took southern oil in the above doses for a month. Greatly improved in flesh and complexion; but at the end of the course had an attack of eczema in the arms.

VI.—W., æt. 30; subject to sciatica. Took the southern oil; is certain that it has done him much good.

VII.—J. W., æt. 36. Was largely bled for acute rheumatism a twelvemonth since. Has never recovered flesh or strength, and is racked with pains in the back and shoulders. Took cod liver oil for a month with benefit last May; left it off during the summer; became thinner and weaker. Took southern oil in the dose of two drachms thrice daily for three weeks; likes it much; feels stronger, and looks as decidedly fatter and better in condition as he did from the cod liver oil.

VIII.—Mrs. P., suffered from puerperal mania whilst suckling last autumn; has continued anæmic and despondent; has taken every form of mineral and vegetable tonic with temporary benefit. Took southern oil for three weeks; is unmistakeably plumper, clearer in complexion, and in better spirits.

IX.—J. M., a sallow child, æt. 4, took the southern oil for a week, for impetiginous eruptions on the face and legs. The improvement in flesh and clearness of complexion was extraordinary, and the eruption nearly disappeared.

These few cases do not prove much; but, so far as they go, are satisfactory. No one who had seen the children above mentioned before and after their course of oil, could doubt that a most beneficial change had been wrought by something. The great delight which the little wretches took in their dose

is another point worth noticing. I would therefore suggest, that it is well worth while to make a fair experiment on a large scale, to determine whether it is fish oil in general that does good, or only the oil of the cod's liver. If, as I believe, almost any kind of fish oil will answer the purpose, then many of the poor will be able to use the cheaper kinds, who could not afford the nicer but more costly cod liver oil.—I am, sir,

Your obedient servant,

ROBERT DRUITT.

Curzon Street, Nov. 2, 1849.

FUNGOID DISEASE OF THE BLADDER.

SIR,—In the number of the MED. GAZ. for the 12th of Oct. ult., Mr. Kesteven has reported a case of Fungoid Disease of the Bladder, and in his remarks upon the rarity of the disease has made reference to that specimen of it which was laid by myself before the Westminster Medical Society, last winter. The case occurred in the practice of Dr. Seth Thompson, at the Middlesex Hospital, through whose kindness I was enabled to exhibit the morbid preparation, and on that account I did not feel at liberty to detail minutely the particulars connected with it.

However, since that time another case has fallen under my notice, of, I would say, a precisely similar nature, in a patient of Mr. Partridge's. From the very able report alluded to, given by Mr. Kesteven, I learn that the symptoms present during life, and the result of the post-mortem examination, show so wide a difference between his case and those above mentioned, that though belonging to the same genus of disease, their classes must be, I conceive, dissimilar.

In Mr. Kesteven's case there was great pain, and that appearance about the patient so peculiar to, and indicative of, malignant disease, while the structures adjacent to the seat of mischief participated in the cancerous degeneration.

In both Dr. Thompson's and Mr. Partridge's cases *pain was absent*, and the aspect of the patient was not such as would lead one to suspect malignant disease: neither *after death* were the neighbouring organs found to be involved.

I trouble you with these observations for the purpose of explaining the relation that Mr. Kesteven's case bears to the one quoted by him (from the MED. GAZ., vol. iii. p. 129), and also as an appendix to that part of the report of the meeting of Westminster Medical Society, referring to my remarks on Mr. Partridge's case.

I have reason to hope that Mr. Partridge will shortly give the particulars of his case to the profession, and I therefore refrain from any further remarks upon this interesting and important subject.

I have the honour to be, sir,

Your obedient servant,

THOS. WM. NUNN,

Demonstrator of Anatomy at the Middlesex Hospital, &c.

Stratford Place, Nov. 1, 1849.

Medical Intelligence.

DIAGNOSIS OF INSANITY.—THE SYMPTOMS OF FEVER ALLEGED TO HAVE BEEN MISTAKEN FOR THOSE OF INSANITY.

[THE following letter has been addressed by Dr. Knott to the Chairman and Committee of Visitors in Lunacy at the Michaelmas Sessions, Cockermouth, 1849.]

GENTLEMEN,—Having certified as to the necessity for, and propriety of, removing a female lunatic residing in Carlisle, and alluded to in your report, which certificate is as follows:—"I saw —— (the name is omitted for obvious reasons) on the day of her removal to the Asylum, Dunston Lodge, and found her labouring under symptoms of violent mania, with a strong tendency to commit suicide, and to injure others, in consequence of which mechanical restraint was necessary and adopted: she presented no appearances of physical disease, and certainly none of a typhoid nature, or of typhus fever, and in my opinion (for her own preservation and that of others around her, and for the preservation of her bodily health), required to be promptly removed to a suitable Lunatic Asylum." Now, your report states that "on her arrival she was suffering under a high state of fever, which, as represented to your Committee, assumed the appearance of typhus fever—so weak as to be unable to walk, and had consequently to be borne from the station to the Asylum. This patient only survived her removal nine days, her death, in the opinion of the medical men, having been hastened by her removal." I am sure the honourable and respected Bench would not, knowing the contrary, charge the medical men concerned with either an unfaithful or negligent discharge of their onerous and sacred duty. Still I must be allowed to state, that a very serious charge is involved in the said report, and which, if correct, constitutes the grave one of manslaughter; and that, unsupported by aught but ex-parte evidence, is utterly alien to the principles of British justice. Why was there not a previous judicial inquiry by inquest? And if such a stigma, both on our intelligence and honour, be not withdrawn (for I am one of four regularly qualified medical men

who visited the patient) I do not hesitate to say, we have still a claim to investigate the true merits of the case, and ascertain by exhumation of the body whether the ex-parte report of your honourable Bench is correct or not: from this proposition we do not, and feel we need not shrink. Professional character is too tender to be disposed of by non-professional gentlemen, however respectable, without full inquiry, and that with equal attention to both sides of the question. With every feeling of respect, I cannot admit the competency of parties not medical to arbitrate in such a case. But it so happens, in this instance, the facts were so obvious that they need only to be stated to satisfy any intelligent person that the patient not only might lawfully be removed, but that it was imperative to remove her, as the following plain facts, which can be proved by many respectable witnesses, must clearly shew, as the only probable means of restoring reason, and preserving bodily health, viz.: Twelve days before removal to the Asylum she appeared in the public street nearly in a state of perfect nudity, and on the day before removal in perfect nudity in her own room (persons of both sexes being present). Up to the day of removal she exhibited *violent mania*, with suicidal tendency, and a desire to injure others, and destroy every article around her. On the day before removal, with characteristic cunning, the patient induced her son (ten years of age,) to unbuckle the straps and mufflers, and immediately seized her daughter, then entering the room, and endeavoured to strangle her, and had not the neighbours interposed would have succeeded, as was declared by her daughter, a weak and delicate female, since deceased. Even the persons attending her were obliged to observe great caution in order to prevent her from biting them; in fact, when I visited her I was warned to be on my guard against this propensity, during the time I was making the necessary examination. She declined taking sustenance requisite for support; and so far from her showing the slightest symptoms of prostration of strength, or low muttering delirium of typhus fever, the relieving officer and assistant aver, that from about Milton Station to Dunston, upwards of forty miles, she persisted on being in the standing posture, and made frequent enquiries where she was, where she was going to, and if they had paid the expenses of travelling, &c. Kicked off her shoes, only one of which they could succeed in replacing. Removing her from the railway carriage they carried her for a short distance, as being more convenient from her violent resistance; about the last two hundred yards she walked to the Asylum, still resisting with strong efforts. An officer of the institution met them, and said, when they were carrying her after leaving the carriage as above observed, "Set her down, she is able to walk." On their entrance the Proprietor observed, "Suicidal and dangerous; we shall have some trouble with her." I am also informed she suffered from puerperal mania about twenty years since, and that a son has been afflicted with mental derangement; the gravamen of the charge in the report appearing to be that this patient was removed improperly as labouring under physical disease apart from the mental, which I trust the foregoing statement has disproved. Medical men are not called upon to guarantee, when certifying a patient to an Asylum, that he or she shall not die in nine days. It is obvious to every intelligent member of the profession that violent mania must have one of two issues, either to sink under extreme and continued excitement, or exist a longer or shorter period, in proportion to the success of treatment in allaying the inordinate excitement attendant. There is no rule special as to the continuance of life under such circumstances; the records of Lunatic Asylums shew that issue may take place in a period from three days to forty years or more, and if the principle which the report would seem to lay down were acted upon, Lunatic Asylums might be closed, and few medical men respecting themselves would be found to certify, if subject to the responsibility it implies. In this case, apart from the inseparable excitement attendant upon mania, the patient was in good health; but we must not forget that *physical* diseases, as well as mental, are to be attended to in properly conducted asylums. Violent cases of mania cannot be legally retained in the workhouse longer than fourteen days, and properly so, as the means cannot be used to restore the patient as those available in a special asylum. The serious nature of the charge implied in the report has induced me to go into the subject at greater length than I otherwise should have done. I overlook the general remarks of the Bench, simply observing that it is not necessary to remind medical men of the contingent of misdemeanour until such occurs, as we, in common with all ranks of society, are amenable to the laws of our country.

With much respect, I am, gentlemen,
Your obedient servant,
SAMUEL KNOTT, M.D. M.R.C.S. Eng.

Carlisle, Nov. 1st, 1849.

THE CHOLERA IN GREAT BRITAIN.

BY a return made to the Board of Health for the week ending the 3rd November, it appears that the deaths from Cholera registered in England, Wales, and Scotland, amounted to only 391. The towns in which the greatest number of deaths are recorded are as follows:—

Bridgewater	31
Wigan	29
Knaresborough	20
Stourbridge	18
Dudley	17
Lancaster	13
Chilton	12
North Witchford	12
Wallsall	11
South Shields	11

THE CHOLERA IN CANADA.

This fell disease has, *pro tempore*, entirely disappeared from Montreal; no cases having occurred since the 19th Sept. according to the report of the Local Board of Health; although to our knowledge a few straggling cases have occurred since. The same observations apply to Quebec, Toronto, and Kingston; and we may now fairly presume that the epidemic has ceased. We subjoin the daily reports of the Local Board for this city to the 19th September; and will give in our next the returns from the various Boards in the Province.—*British American Journal.*

It appears that up to August 31, out of 1171 deaths in Montreal 499 were caused by Cholera. Since that date, and up to the 19th September inclusive, there had been in Montreal, 128 deaths, of which 28 had arisen from Cholera.

HONOURS CONFERRED ON FRENCH MEDICAL PRACTITIONERS FOR THEIR SERVICES DURING THE CHOLERA.

The *Moniteur* contains two reports, addressed to the President of the Republic, by M. Lanjuinais, describing the services rendered by physicians, public functionaries, and inhabitants of Paris, during the prevalence of the cholera. Appended to these reports are decrees of the President, conferring the rank of officer of the Legion of Honour on Drs. Melier and Rostan; the cross of that order on Dr. Stuart Cooper and twelve other physicians, and medals of honour on a great number of citizens of all ranks, professions, and countries.

DEATHS OF PHYSICIANS BY CHOLERA IN ST. LOUIS.

The fearful pestilence now raging in different parts of the country has made sad inroads into the ranks of the profession of St. Louis, *seventeen practitioners* having fallen victims to the disease. The greatly increased amount of labour and anxiety incident to the prevalence of an epidemic disease, it would seem, must render physicians more susceptible than others to the influence of the special cause; but frequently the immunity of this class furnishes occasion for common remark. We know of no especial reasons for their exemption, except, perhaps, greater prudence in matters under their control, and an absence of that apprehension which is so apt to pervade communities afflicted by a pestilence, and which is doubtless one of the most powerful of predisposing causes. In St. Louis, however, the severity of the epidemic, and the extent to which it has prevailed, must have imposed duties upon the medical profession greatly disproportionate to ordinary powers of endurance; and it is probably to this fact that the mortality among its members is to be attributed. As regards contagion, we make no account of it in this, or any other connection, for reasons which we will not now discuss, but which, in our view, are sufficiently conclusive. Excluding all idea of communicability, the active exercise of medical practice, during the prevalence of pestilential disease, involves peculiar dangers incident to toil, anxiety, loss of sleep, and constant exposure to deleterious influences. But, notwithstanding this, how seldom do medical practitioners flee from the post of duty under such circumstances! Whatever may be the place which the medical profession holds in public estimation, there is much in the character of its worthy members to gratify an honest professional pride, and to excite a noble spirit of emulation!—*Buffalo Medical Journal.*

NEW MEMBERS OF COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

A numerously attended meeting of the Fellows of the College took place on the 1st inst., in the theatre of the Institution, to elect from among themselves two gentlemen as members of the council in the vacancies occasioned by the resignation of Mr. Richard Welbank, and the lamented death of Mr. Aston Key. The candidates brought forward were Mr. George Pilcher, of Great George Street, Westminster, and Mr. John Bishop, of Bernard Street. The Fellows having balloted, the president declared these gentlemen were duly elected members of the council of the Royal College of Surgeons.

POISONING BY TOBACCO.

Mr. Eade, of Blofield, Norfolk, relates the following case of poisoning by tobacco, in the Lancet of Nov. 3:—

F. B., aged 18, an hysterical-looking girl, not having had any evacuation from the bowels for some considerable period, and various remedies, as well as repeated enemata, having failed to produce any effect, was persuaded by a friend, who stated to her that she had derived the greatest advantage from such treatment, to have a tobacco clyster administered. For this purpose, about three drachms of common shag tobacco were boiled in a pint of water, and injected into the bowel. In about half an hour after this she complained of faintness and feeling sick,

and in half an hour more became quite collapsed, with cold sweats; vomited; was slightly convulsed; and she died in about half an hour, being an hour and a half from the time of the injection being administered.

Post-mortem examination 36 hours afterwards.—The body presented no remarkable appearance externally. *Head:* Not examined. *Chest:* Lungs normal in every respect; no fluid in the pericardium, but the heart itself remarkably flaccid; so much so, that when laid upon the table it quite collapsed, and became almost as flat as an empty stomach in the same situation. All its cavities very empty, but in each of the ventricles from two to three drachms of fluid black blood. *Abdomen:* Liver presented no unusual appearance; stomach contained several ounces of semi-fluid food. Intestines examined for nearly their whole length; duodenum and jejunum empty; ileum contained some semi-fluid fæces; colon empty, and rather distended with gas. No redness or trace of inflammation visible in any part of the canal, and no smell of tobacco perceptible in the abdomen or any part of the body.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 2nd inst.:—R. Hamilton—J. T. Goodridge—R. A. Gaskell—C. A. Flayer—W. M. Hatfield—H. Taylor—J. G. T. Rossiter—T. Croft—J. L. Nowell—E. M'Kellar—S. Reynolds—H. Dixon.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 1st November, 1849:—Joseph Hughes Hemming, Kimbolton, Hunts—John Cox Lynch, Norwood—Wm. Ferdinand Wratislaw, Rugby — Thomas Pettit Wright, Chatteris, Cambridgeshire.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Report of the Nature and Import of certain Bodies found in the Intestinal Discharges of Cholera. By a Committee of the Royal College of Physicians.

Observations on the Spread of Asiatic Cholera, and its Communicable Nature. By John Evans, M.D. Chicago, 1849.

Medical Report of the Managers of the Lunatic Asylum, Aberdeen. July 1849.

Pharmaceutical Journal. November 1849.

The Dublin Quarterly Journal of Medical Sciences, No. 16. November 1849.

On certain Physiological and other Facts observed during the Treatment of Spinal Disease. By Samuel Hare, M.R.C.S.

The Defects of the Lunacy Law: a Vindication of the Decision of the Lord Chief Baron in the case of Nottidge *v.* Ripley. By T. T. Wingett, M.D.

(The remainder will be given next week.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·8
,, ,, ,, Thermometer[a] ..... 50·3
Self-registering do.[b] ....Max. 73· Min. 31·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·0.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1°.4 *above* the mean temperature of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 3.

BIRTHS.		DEATHS.		*Av. of 5 Aut.*	
Males....	712	Males....	404	Males....	583
Females..	704	Females..	433	Females..	579
	1416		837		1162

CAUSES OF DEATH.		*Av. of 5 Aut.*
ALL CAUSES	837	1162
SPECIFIED CAUSES	834	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	214	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	37	49
3. Brain, Spinal Marrow, Nerves, and Senses	93	125
4. Heart and Bloodvessels	28	40
5. Lungs and organs of Respiration	120	214
6. Stomach, Liver, &c.	48	65
7. Diseases of the Kidneys, &c.	13	11
8. Childbirth, Diseases of Uterus, &c.	8	10
9. Rheumatism, Diseases of Bones, Joints, &c.	2	8
10. Skin	1	1
11. Old Age	38	57
12. Sudden Deaths	10	12
13. Violence, Privation, Cold, &c.	20	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsions	31
Measles	16	Bronchitis	34
Scarlatina	41	Pneumonia	70
Hooping-cough	22	Phthisis	113
Diarrhœa	31	Lungs	4
Cholera	11	Teething	6
Typhus	37	Stomach	6
Dropsy	15	Liver	14
Hydrocephalus	27	Childbirth	3
Apoplexy	11	Uterus	4
Paralysis	26		

REMARKS.—The total number of deaths was 325 *below* the weekly autumnal average. There were only 11 deaths from Cholera, being 3 above the autumnal average.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Spes should apply to any regular medical practitioner. Persons who insert advertisements in the newspapers and send pamphlets by post should be avoided.

A Subscriber.—We believe that Mr. Baillière, 219, Regent Street, has published a pamphlet on the Regulations for Medical Study at the Parisian Hospitals.

Dr. T. Williams's letter next week.

The communications of Mr. F. A. Bonney and "Chirurgus" will be inserted in the following number.

Mr. T. J. Herapath.—We regret that there should have been any delay, but it has arisen from the fact that many papers were already in type. The communication will appear next week.

Received.—Dr. Barnes, Dr. Routh, Dr. Babington, Dr. Ogston, and Dr. Snow.

MEDICAL SOCIETY

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Charles George Forse, æt. 16, admitted April 29, 1845, under Dr. Thomson.

Case.—*Ascites and anasarca after scarlet fever—albuminuria—epilepsy.*

The patient is rather short of stature. Conformation in state of health stated to be spare. Complexion very pale; quite anæmic. Eyes blue. Light hair. Diathesis scrofulous.

By occupation an engraver for the last two years without interruption. Accustomed to drink mostly cold tea, and toast and water. Perhaps Oss. of beer in the week. Never took spirits, except during his last illness. For the most part he takes animal food and potatoes, very rarely any other vegetables. Always warmly dressed and well fed. In health sleeps about ten hours out of the twenty-four. Resides at No. 9, Smith Street, St. Pancras. He slept in a dry and warm room. The situation is open. In London all his life.

Hereditary predisposition.—Father alive, æt. 43, a healthy and strong man. His two brothers have had scarlet fever; the first dying of scarlet fever, the second of the dropsy after the fever. The whole family are said to be very scrofulous.

Habitual state of health.—Of a cheerful disposition. Has been generally very delicate till about three or four years back, since which period he has been gaining flesh and strength. Has had small-pox, hooping-cough, and measles, when a child. Has been liable to pains about his shoulders, which he calls rheumatic, but these have never been accompanied by any redness or swelling. Also liable to pains across his loins after much fatigue or long sitting up. Never had jaundice. Was quite well up to the date of the present attack.

Present attack.—On the 1st December he was seized with excessive purging, vomiting, and severe sore-throat, feeling altogether very ill and feverish, but not thirsty. His urine was scanty, and high coloured. He was obliged to take to his bed. He continued much in the same state for two days, when the eruption came out upon his arms which was stated by the medical gentleman present to be scarlet fever. Medicines were prescribed, and three blisters applied successively to the nape of the neck. He had not the fever very severely. The skin peeled off only in parts,—not over the whole body. He recovered in about one month. His appetite being very good, he ate largely of meat at the end of this time, also Oss. of porter daily, and occasionally a little gin and water, ordered by the doctor. All of a sudden one night his whole body, face, &c., began to swell, and in the morning he found he could not make water. He does not remember how soon this suppression of urine gave way, but when he did make it, it was very scanty, and of a dark brown colour. The swelling of the body was accompanied with severe pain across the loins and umbilicus. He did not notice if any one part of his body swelled before another, but thinks his face and belly swelled at the same time.

He had been giddy, and occasionally light-headed, during the month he was suffering from the fever or convalescent afterwards; but on the day following the occurrence of the dropsy he suffered particularly from giddiness, in the midst of which he was seized with fits. Each fit did not last longer than two or three minutes. His limbs were convulsed at the time, and he frothed at his mouth. He was unconscious during their occurrence, and fell asleep afterwards. The fits were always ushered in by a dimness of sight (but no tinnitus aurium), and an itching sensation on the legs, gradually extending up the trunk. He always passed much urine after a fit. He had eleven of these fits in the day, and continued unconscious for a whole day and night afterwards. On some subsequent day he had three fits, on another three more, on a third two more, but his memory being very defective, he cannot give a more exact account. These fits were precisely similar to the first. He had one fit about a fortnight back, but not since. He was under medical treatment all this while, and at first got better, but lately the dropsy has again increased. Had left off work on the 1st December; kept his bed or laid on the sofa since the 2d.

Present state.—Occasional shiverings; does not feel hotter than usual; skin dry; does not perspire; no general pains. Feels very weak, so as to be unable to stand upon his legs; very restless at night. Colour of skin very pale, almost blanched. Temperature in axilla, 98° F. Over the legs and arms there is a mottled appearance, produced by a net-work of streaks about one-eighth of an inch in breadth. These disappear on pressure. Over the lumbar region is a papular eruption; here and there larger masses of skin, elevated, and not unlike urticaria, about five or six in number. These do not itch. The face is quite blanched, very much swelled. Eyelids œdematous, having an appearance of transparency. He cannot entirely open the lids. The arms and

legs generally œdematous, especially the latter, pitting on pressure.

He seems to be rather an intelligent lad, but his memory is very defective, and he says it has been especially so since the occurrence of the dropsy. Sleeps well. Complains of slight pain in the right side of the head, forehead, and eyebrows. Feels giddy. Expression of countenance anxious. Lips quite blanched. Cannot see clear, his eyesight being generally dim. He thinks he sees a trifle better out of the left eye. The pupil of the right eye is rather more dilated than the left at present, but this appearance is not constant. The other senses not affected. Complains of pain across the loins, and general weakness there.

Thoracic organs. — Respiration short, twenty in a minute. No pain in the chest. Voice not affected. Slight cough ; no expectoration. There is dulness posteriorly from an inch and a half above the angle of scapula downwards on the right side; on a level with the angle of the scapula on left side. The dulness changes with change of position. This is less obvious on the right side ; voice has a bleating character on the right side, which is not so marked on the left side. There is a friction-sound heard behind, just below the lower angle of scapula, but it is very circumscribed. It is not heard on the right side. Superiorly on the left side there is slight crepitation, with rhonchi. Breathing puerile on both sides. In front the breathing is loudly puerile, with some sonorous rhonchi and large crepitation. Beneath the right clavicle it is almost tubular. The heart sounds natural. Impulse increased. No pain or palpitation of the heart. Pulse 104, rather weak, and tremulous.

Tongue is furred ; not thirsty. No sore throat or difficulty of deglutition at present.

Abdominal organs.—Appetite pretty good. No nausea or vomiting. The abdomen is much enlarged, of an oval form ; the superficial veins tortuous and large. Measures thirty-four inches round just above the navel. Fluctuation very distinct. The liver cannot be felt. Umbilicus rather prominent ; kidneys evidently tender, especially the right. The scrotum and penis are very tense with fluid. Bowels open once since his admission. Motion semiliquid.

He makes but little water. It is of a pale opalescent colour, very acid ; sp. gr. 1035. Contains a great quantity of albumen, to three-fourths the quantity tested. No excess of urea.

Supposed exciting cause.—Had not been out since the 1st December up to the time of his admission in the hospital, nor has he been exposed any time during that period that he is aware of. The only imprudence that he believes he committed, was eating rather immoderately when recovering from the fever.

Treatment. April 30th.—Dr. Quain ordered the following :—C. C. ad ℥viij. lumbis. ℞ Elateri, gr. ⅓. Ft. pil. o. n. sumend— ℞ Potass. Acetatis, ℈j. Middle diet. Sp. Etheris Nitrici, ℥ss. Chop. Tr. Digitalis, ♏x. ; Tr. Scillæ, ℥ss. ; Inf. Juniperi, ℥ss. ter die.

Daily reports were taken of this case, but as the patient continued an inmate of the hospital for nearly three months, they have necessarily been much curtailed.

May 2d.—He has been much purged these two last days. Stools three to five a day, very watery, but not bloody. The pill makes him very sick. The face is less swelled, and his eyelids have scarcely so transparent an appearance. Abdomen measures thirty-five inches round. The scrotum is more swollen. Pulse small, compressible, 104. Physical signs as before. Posteriorly and inferiorly the vocal vibrations are not heard on right side, but slightly on the left side. Weak on both sides superiorly. Has made today about ℥xij. of urine. That passed in the morning was full of lithates ; very albuminous. Under the microscope a large quantity of blood globules were detected. Omitte Pil. ℞ Calomel, gr. v. ; Elaterei, gr. j. ; Mic. panis, gr. xij ; Ft. Pil. vj. sumatur j. omne mane. ℞ Tinct. Digitalis, Tinct. Scillæ, ♏x. ; Sp. Juniperi, ℥j. ; Decoct. Chimaphyllæ, ℥iss. ter die. Ft. acupunct. scroti.

6th.—The countenance is much less swelled, and less blanched. The scrotum much diminished in size, the punctures having discharged greatly. The penis is still very œdematous, and twisted upon itself, looking very transparent. Bowels are freely opened four or five times. His stools very watery. There is much scalding about the anus with each motion. Abdomen much less tense, but it is tender on pressure. The veins of abdomen less tortuous and enlarged, but those of the larger veins about the legs are tender on pressure. Anasarca of extremities less, but still considerable. Tongue greatly improved, not nearly so red as it was. Makes more water than he did. Pulse very soft, compressible, 80. Complains of twitchings and jumpings of the extremities, with more or less tremor about the body when going to sleep. On the 7th, he made more water, ℥xiv. (besides what he passed by stool) being saved. It is pale, hazy, almost opalescent, sp. gr. 1016, containing a thick precipitate, consisting of lithates. It was very acid and albuminous, with a deficiency of phosphates. Under the microscope this was found to consist of granular matter, hairs, and vast quantities of epithelium scales and blood globules. Pergat pil. ; Pt. Mist. addendo, Tr. Digitalis, ♏viij. et Tr.

Scillæ, ℥iv. sing. dos. ℞ Ol. Terebinth. ʒvj.; Tr. Opii, ʒj. Fiat liniment. horâ somni abdominen infricend. Cataplasma Lini. magnum post usu linimenti abdomin. applicand.

17th.—Since the last report he has been gradually progressing. In consequence of the pain and tenesmus produced by going to stool, the pill was omitted on the 10th, but repeated again on the 12th. On the 15th the Trs. of Digitalis and Squills were increased ij. drops more to each dose. To-day he has been very severely purged, and there is considerable scalding at the anus when he passes his motions. There is no cough. On percussion behind, the dulness reaches as high as between the fifth and sixth ribs on the right side; as high as between the sixth and seventh on the left side. Immediately above this, for about an inch, the respiration is bronchial, and œgophony is heard. The seat of the dulness alters with the position of the patient. No vocal vibrations are felt on either side. In front the dulness extends as high as between the sixth and seventh ribs, but below the sixth rib on the right side there is some resonance over a limited space, probably from some adhesions. On right side it is clear down to the sixth rib. The abdomen is much less tense and tympanitic, measuring thirty-one and a half inches round, just above the umbilicus. Fluctuation persists, but is less evident. The anasarca of the penis and scrotum has quite disappeared; a little remains in the legs, but it is much less. The skin is generally hot and dry over the body, but a little moist in the flexures and palms of the hands. Altogether he feels much stronger. There is no swelling whatever over the face. It is, however, still quite blanched. Right pupil has been all along rather more dilated than left, and the sight of both eyes, especially the latter, is dim. There is no headache, and scarcely any giddiness, except when he sits up. On the 18th, at a distance of not more than two inches from the left eye, he could not tell whether two or more fingers were held before him. On the right side his vision was distinct. Sensation seems equal on both sides of the trunk, but on the face and forehead he seems to feel better on the left than on the right side. The hearing appears to be better on the left than on the right side. Tongue deviates about one-eighth of an inch to the left side. He is very drowsy, especially during the day. His memory is in no way improved. The twichings of the extremities and tremors, just as he goes to sleep, continue. There is still pain across the loins. The urine is become darker in colour, acid, with a deficiency of phosphates; albuminous to about half the quantity tested. Since last report the specific gravity has risen from 1016 to 1022; under the microscope exhibiting hairs, tubes, epithelium scales, lithic acid, and blood globules: the latter diminishing in quantity.

25th.—Since last report he has continued much in the same state. On the 20th there was slight cardiac pain and prolongation of first sound, which on the 22d amounted to a distinct systolic murmur, heard most distinctly at the base, heard also at the top of the sternum, and in the carotid. There was also considerable abdominal tenderness, for which reason a blister was ordered to be applied over it, which rose well. On the 22d, the mixture was omitted, and the following substituted:—Tr. Digitalis ℥xij.; Tr. Scillæ, ℥xxiv.; Syrupi papaveris, ʒss.; Mist. Amygd. Amare, ℥iss. 5a. q. q. h. s. On the 24th he was sick, and brought up much bile.

He was much purged, and complained of considerable griping and superficial abdominal pain. The medicines were, therefore, discontinued, and the following ordered:—℞ Ol. Ricini. ʒij.; Terebinth, ʒj.; Acaciæ Pulv. ℈j.; Pulv. Ipecac. Co. gr. v.; Mist. Amygdal. Amare, ℥iss. ter die.; ℞ Pulv. Digitalis.; Pil. Hydrarg. aa. gr. j.; Ext. Conii gr. ij.; fiat pil. inter sing. dos. pil. sumend. Omit the chop and milk diet.

To-day the anasarca has quite disappeared from the extremities; blister over abdomen still sore; the bowels freely opened; abdomen still measures thirty-one inches round. No sibilant rhonchi heard over chest to-day, but a few sonorous. Expectoration purely mucous, and trifling in quantity. The chest measures twenty-five inches round just above the nipple; the left half fifteen inches. Other physical signs of the lungs as before. Sweated a little last night for the first time. The aortic murmur is much less loud, and not heard in the carotids; pulse 100, soft and compressible. The right pupil is occasionally more dilated than left. Since the 18th, complete blindness of the external half of the left eye has come on; he sees objects only by half, and those only when close to. His hearing on both sides is somewhat duller than usual, especially on right side; tongue no longer deviates to-day. The twitchings of the extremities continue. The urine is still albuminous; to-day to about one-third, but has been as low as to one-eighth (21) the quantity tested; sp. gr. has varied from 1016 to 1024. Under the microscope the same appearances have been observed: the crystals of uric acid, however, being most numerous.—Omit. pil. ℞ Elateri, gr. j.; Calomel, gr. xij.; Ext. Hyoscyam. ʒss.; fiat pil xij. j. 8va. q. q. h. ℞ Potass. Acet. ʒj.; Tinct. Digitalis, ℥iiij.; Inf. Scoparii. ℥ss. ter die.

June 7th.—Since last report the patient has continued to mend. The appearance of

the face is much improved, it is less blanched; tongue clean; no anasarca or mottling of extremities. The physical signs of the lungs and heart are much the same, except that the aortic murmur is more distinct. The abdomen measures twenty-eight inches round, just above the umbilicus: it is much softer, and there is no enlargement of the veins. Fluctuation is still evident in the most dependent parts, but it is tympanitic superiorly. At the umbilicus. on superficial percussion there was dulness, which continued when the finger was pressed inwards, and percussed to the depth of half an inch. At the sides the dulness continued on percussion to the depth of two to four inches. There is still some pain across the loins, and the kidneys are tender on pressure, but it does not extend down the sides and thighs. There is also pain about the region of the bladder, but no tenderness on pressure, and it does not extend down the sides and thighs. There is frequent pain in micturition. He has perspired much and frequently since last report. The pupils have been more equally dilated. There has been occasionally intolerance of light, and sometimes complete blindness for the moment on sitting up. Sensation equal on both sides. The hearing of the left ear continues much the same. The urine has continued albuminous, sp. gr. varying from 1016 to 1027. The other chemical characters as before. In addition to the blood-globules, however, pus-globules or large organic globules have made their appearance since the 2d. The quantity passed has much increased, exceeding ʒxxx. on one or two occasions.—℞ Omitt. pil.; ℞ Elateri, gr. j.; Calomel. gr. v.; Ext. Hyoscyam. ʒss.; divide in pil. x. sumat. j. m. n. He has been taking ʒij. gin daily since June 5th; the chop again since May 30.

17th.—The improvement has continued. His face looks fatter, and has more colour than it had. There is no headache. The eyesight is improving also. He complains, however, still a good deal of the jumpings and twitchings of his extremities, which indeed are rather more violent than before. To-day, moreover, he has had twitchings of the face, the mouth being drawn a little to the left side. No œdema of limbs. The chest measures twenty-six inches and three-quarters round just above the nipples. The left half, thirteen inches and three-eighths. The respiration behind is nowhere distinctly bronchial. The dulness on either side does not reach higher than the ninth rib, nor does its seat change with change of position. Vocal vibrations felt equally well on both sides. The aortic murmur continues loud. He can lie equally well on both sides. The abdomen measures twenty-six inches round: superiorly it is tympanitic. The fluctuation superiorly is not so distinct. Perspires still a good deal occasionally. There is considerable tenderness over the region of the left kidney: none over the right; tongue rather dry; appetite good; bowels are open from twice to three times a day, and the stools are more watery than before. The urine is still albuminous, varying from half to a quarter the quantity tested, and with much deficiency of phosphates, sp. gr. varying from 1016 to 1018. Microscopical appearances as before. ℞ Omitte Mist.; ℞ Tinct. Digitalis, ℥x.; Infus. Scoparii, ʒjss.; cum ℥x. guttarum sequent.; ℞ Tinct. Ferri Sesquichloridi, ʒj. ter in die.

18th.—Last night, for about half an hour, he began to feel very queer, as if he was going to have another epileptic fit. The itching sensation on the legs and calves especially recurred, but did not extend higher than the knee. Subsequently he had jumpings and twitchings of the legs to an unusual degree. These symptoms, however, disappeared towards morning. Urine albuminous to half, sp. gr. 1013, ʒxxxiv. passed.

21st.—He feels pretty well. Anasarca has somewhat increased in the legs, which he attributes to his walking; no rigors. He does not perspire as much as he did. He believes he can see better from his right eye, but the left continues dim; though there is no blindness of the external half of the eye as before. The hearing is much about the same; tongue furred. He observes occasionally that his teeth grind, and the mouth is drawn, but equally on both sides. No headache or giddiness. The twitchings of the legs have disappeared. Sleeps well, not disturbed by frightful dreams. There is pain across the loins on stooping, and the left kidney is tender on pressure. Respirations chiefly diaphragmatic—twenty-one in a minute. Physical signs as before. Impulse of heart as extended, but without purring tremor. There is some regurgitation of the veins in the neck on the right side; appetite good, but not thirsty; bowels open three or four times daily. Abdomen measures twenty-six inches round. There is occasionally slight pain during micturition. The urine has increased in quantity from ʒxxx. to ʒxl. in the twenty-four hours. The albumen has increased to about half the quantity tested. It is still very acid, sp. gr. varying from 1013 to 1017; some excess of phosphates, containing much lithates. Under the microscope still exhibiting hairs, tubes, and blood-globules, with once or twice crystals of oxalate of lime.—℞ Omitt. Mist.; ℞ Potass. Acetatis, ℈j.; Tr. Digitalis, ℥viij.; Pergat in usu pil.; Inf. Scoparii, ʒss. ter die.

27th.—There has not been much difference since last report. There is still slight

anasarca at night in the legs, which disappears in the morning. The skin generally is dry, and he no longer perspires. The expression of the countenance is placid, but the face is still very pale. His appetite continues good. He has had slight cough for a few days, but no expectoration. Towards the lower part of the left pleura behind, he experienced on the 25th slight pain shooting up to the clavicle; but it was not permanent, nor increased by coughing, or a deep inspiration. The murmur at the base of the heart has continued as loud as before: it is most distinct in the ordinary situation of the pulmonary valves; but it is still heard in the neck and the top of the sternum. For the last three days there has been some pain on the left side of the head, sharp in character, recurring at the same time, unaccompanied with rigors. No discolouration of conjunctiva. The eyesight and hearing improved, but there has been occasional intolerance of light. Pupils equally dilated; tongue quite clean; pulse 96, soft, of sufficient power. There have been no twitchings or jumpings of the extremities or face since. The abdomen measures from twenty-seven to twenty-seven and a half inches round. It is tympanitic superiorly, but obscure fluctuation is felt inferiorly. The liver is evidently small, and feels hard and resistant. Bowels open three or four times a day. There is still pain across the loins, especially on stooping. When pressure is made backwards on the abdomen towards the kidneys, much pain is experienced. There is slight pain at the extremity of the penis occasionally, but no retraction of the testicles, or pain running along the sides and legs. The urine continues albuminous to half the quantity tested; the sp. gr. has varied from 1012 to 1015. The quantity passed has increased from 36 to 60 oz. in the twenty-four hours, with a deficiency of phosphates, and rather less lithates than before. There are more blood-globules, hairs, and tubes occasionally, but no more organic globules; very acid.—℞ Adde Haust. Tr. Cinchona, ℥j. sing. dos.

28th.—To-day the patient is not so well. Anasarca is less. He feels rather cold. The expression of his countenance is more anxious. The colour of the skin on it more sallow. The eyesight generally is worse. He seems to be quite blind of the inner side of the left eye, *i. e.* when five fingers are held before the left eye, the right eye being closed, he can only distinguish the two outer fingers. His hearing and other senses are unaffected. Feels very nervous and low-spirited. About five o'clock this morning he began to feel, as he expresses himself, "very queer," and to experience the itching and pricking sensation all over the body. It did not seem to begin in any particular part. Shortly afterwards his limbs began to start and twitch. The itching sensation soon passed off, and shortly afterwards he lost his senses. The night nurse states he then became convulsed, continuing in this state for at least five minutes. The fit was not preceded by a cry. He rolled about his eyes, struggled a good deal, foaming at the mouth, and bit his tongue. He afterwards fell asleep. He has had no return of the fit since. Tongue is much more furred; pulse 82, with a thrill in it; no thirst or nausea; bowels open four times to-day. Has passed ℥lxvi. of urine in the last twenty-four hours, acid, sp. gr. 1015, pale, of a dirty straw colour. Contains a copious flocculent precipitate: not so much albumen as before; other characters unaltered. —℞ Omitte Mist.; ℞ Pulv. Artemisia vulgaris, gr. xij.; Sumat. pil. altern. q. q. mane. Inf. Cuspariæ, ℥ss.; Potass. Nitratis gr. x. ter die sumend tantum.

30th, 4 P.M.—Yesterday morning, and also in the afternoon, he went out in the hospital yard. The weather was fine at the time, but it had been raining, temperature being from 53° to 69° Fahr, and he felt it cold. He laid himself down upon the wet grass, having only a shawl betwixt him and the grass, where he remained for ten minutes. Towards night he did not seem very well; but this feeling soon passed away. This morning, however, at about eleven o'clock, he was seized with rigors, followed by heat, which have continued ever since. At present he feels very cold; countenance anxious and swelled, but does not pit on pressure. There is also increased œdema of the legs. More headache and giddiness. Slept pretty well last night. Breathing is generally hurried; pulse 96, only more full, small, and resisting; no cough, but considerable pain generally in the chest and abdomen; the latter is not larger, measuring twenty-six and a half inches; very thirsty; no appetite; bowels open twice. Has made ℥lxx. of urine, sp. gr. 1015, more albuminous; reactions as before. Contains more blood-globules. To keep his bed.

July 1st.—Has had some rigors, and felt generally chilly all night, but no sensation of heat following. Did not sweat at all last night. The face continues swelled; anasarca not diminished; the countenance still anxious; skin hot and dry; much headache and giddiness; eyesight not improved; pupils equally dilated. Did not sleep at all last night, being very restless and feverish. Abdomen not enlarged. There is considerable tenderness across the loins and over the kidneys on deep pressure. Urine as before; spirits better; no appetite; pulse 104, sharp and resisting.—℞ Mittatur Sanguis

opi C. C. ad ℥viij. Lumbis. ℞ Hydrarg. c. Creta, gr. iv. Mucilaginis q. s. fiat pil. 6ta q. q. h. s. ℞ Liq. Ammon. Acet. ℥iij.; Potass. Acetatis, gr. xv.; Potass. Nitratis, gr. x.; Mist. Camphoris, ℥x. fiat haust. inter sing. dos. pil. sumend.

2d.—No rigors to-day. Legs are much less swelled. There is no headache or giddiness; eyesight not improved; pupils equally dilated; slept pretty well. This morning, at about 1 o'clock, he experienced the itching sensation over the skin as if the fit was coming on. The jumpings and twitchings followed, but passed off in about twenty minutes. Feels rather sleepy; no cough or palpitation at the heart. Pulse 88, full, but perfectly soft. Abdomen measures twenty-six inches and a half. No fluctuation whatever can be detected. There is no pain across the loins. Altogether he feels greatly relieved by the cupping. Liver does not reach higher than the 6th, or lower than the 8th rib. Urine is acid; 32 oz. have been passed; sp. gr. 1012, very albuminous; other chemical and microscopical characters as before.

3d.—Anasarca has quite disappeared from the legs; face but very slightly swelled; perspired a great deal last night,—so much so that his sheets were quite wet through. Has had no more rigors. The expression of his countenance is somewhat hazy, and the eyes look rather wild, but there is none of the anxiety before remarked. Feels much stronger; pupils equally dilated; eyesight generally improved, yet he still sees more dimly through the left eye. Could not sleep last night, in consequence of the copious perspirations. Abdomen measures twenty-six inches and a half: it is somewhat tympanitic,—no fluctuation detectable. To-day he is up, and walking about. Pulse 108, weak and soft; tongue quite clean: respiration easy; appetite excellent; bowels open three or four times. Has made 42 oz. of urine, sp. gr. 1013, very acid,—turbid, with a pinkish tinge from the presence of blood-globules; very albuminous.—Adde Mist. Potass. Acetatis, gr. v. s. d. Ft. in usu pil. addendo Pulv. Digit. gr. j. sing. dos.

5th.—The anasarca is slightly returned in the lower extremities. There is some slight pain. Pulse rather frequent, slightly resistent and sharp. Has had three motions to-day. Gums are very sore, and the mercurial fetor is marked. Face not swelled; perspired a good deal last night. Abdomen still measures twenty-six inches. The liver does not reach higher than the 6th, nor below the ribs. The heart reaches as high as the 4th rib, not lower than the 6th. Murmur audible as before. Has made 46 ozs. of urine, sp. gr. 1009, quite clear, of a greenish yellow tinge; much less albuminous.—Sumat. pil. decimâ q. q. h. tantum.

8th.—The patient does not look so well. Yesterday, after taking his medicines, he was seized with severe griping pains in the bowels, which continued all day. He was not, however, much purged. Perspired but little last night. Yesterday he had some headache; not to-day. Feels very nervous; not giddy. His appetite is very good, but he cannot eat, as his gums and tongue are very sore. The abdomen measures twenty-six inches and a half round. There is considerable superficial tenderness of the skin, but no fluctuation; no anasarca. He suffers a good deal to-day from pain across the loins, moving down his sides and thighs. There is considerable pain also in the testicles. The kidneys felt from behind are exceedingly tender: felt through the abdominal parietes they feel enlarged. Bowels open only once to-day. Has made only ℥xiv. of urine, sp. gr. 1022, albuminous to two-thirds of the quantity tested. Other chemical characters as before.—℞ Omitte Mist. et Pil. Statim Habeat. Ol. Ricini, ℥ss. ℞ Ol. Ricini, ℥ij.; Copaiba, ℥ss.; Acaciæ Pulv. ℈j.; Tr. Camph. Co. ℥j.; Aquæ, ℥x. fiat haust. 4ta. q. q. h. s.

10th.—His mouth is very sore, with distinct aphthous spots along the anterior margin and under surface of the tongue, and between the lips and teeth. Flow of saliva copious, with a strong mercurial fetor. Slept very well, and perspired a little last night. There is some slight heaviness in the head, but no giddiness. He cannot eat anything, in consequence of the state of his mouth. Pulse 100, weak, rather jerking. Bowels open three times, as watery as before. Has passed 78 oz. of urine, sp. gr. 1009; chemical characters as before.—℞ Adde Haust. Tr. Camph. Co. ℥j. s. d. ℞ Liq. Sodæ Chlorinat. ℥j.; Aquæ, ℥vj. fiat lotio pro. utend.

11th.—Altogether he is much better to-day; in better spirits, and feels stronger. The mouth is much improved. Sleeps well. No headache; skin moist; bowels open three or four times. Pulse 104, stronger, and less compressible than before. His urine to-day presents a very singular appearance, containing a large quantity of oil-globules, and he positively denies having thrown any of his medicine in it, and the nurse says the utensil was quite clean. He has passed altogether 60 oz., sp. gr. 1009; reactions as before. Under microscope it was found to contain many oil-globules, some distinct, some in aggregated masses, and a great number of epithelium particles.

14th.—Sweats a little at night, but not much. Altogether he feels and looks much better. Tongue clean; the mouth is quite well again, and the mercurial fetor has quite disappeared. No headache; pupils equally dilated. There is occasionally slight in-

tolerance of light; but the sight of both eyes is much improved, and equally good on both sides. The hearing and other senses unaffected. Sleeps very well; does not feel at all drowsy during the day. Chest measures twenty-six inches and three-quarters round, just above the nipples. Both sides, thirteen and three-eighths. The respiration seems healthy everywhere. There is slight, if any, cardiac enlargement, but the aortic murmur is still heard, also at the top of the sternum and in the neck. Abdomen measures twenty-six inches round. The liver does not reach higher than between the 5th and 6th, or lower than the 8th ribs. Felt from below, it is harder than natural, and resistant. There is still slight tenderness over the left kidney, but much less than before. No pain running along the sides and down the thighs, or in the testicles. Bowels open three times a day. Has passed 32 oz. of urine, besides what he has passed with his motions; sp. gr. 1010, albuminous to one-fourth the quantity tested. Other chemical reactions as before. No more oil-globules have been seen since the 11th. There are still a few blood-globules and hairs.

15th.—Discharged cured of the dropsy.

[To be continued.]

EFFECT OF MERCURY ON THE TEETH.

In regard to the action of mercury upon the teeth, it can, from its insolubility, have no direct local effect, but indirectly it has a most disastrous one. There is far greater demand for dental operations in the United States than in England or Europe; and again, as we have stated above, mercurial medicines have been more indiscriminately, profusely and injudiciously administered here than in any other country. We are not prepared to assert that the one is the cause of the other, but we would earnestly urge the dental profession to the careful examination of the nature and extent of the connection between this their professional abuse and this national evil. We are assured that to some extent they are connected, and for evident and undeniable reasons. That an agent which has such an effect on the secretive and absorbing functions, may influence the formation of the teeth, and impress them with certain characteristics to be seen after their irruption, is not at all surprising. Furthermore, in cases where the teeth are firm and strong, having suffered no such pernicious influence during their development, they may fall victims to mercurial treatment, not only from its action on the gums and periosteum, but by imparting to the secretions of the mouth a vitiated and acrid character, in consequence of which they act more readily upon the teeth, and cause caries.—*Amer. Jour. of Dental Science.*

Original Communications.

OBSERVATIONS ON THE CLINICAL HISTORY AND PATHOLOGY OF ONE FORM OF FATTY DEGENERATION OF THE HEART.

By Edward Latham Ormerod, M.B.

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[Continued from p. 793.]

Part II.

Fatty degeneration of the heart, not directly connected with the mode of dissolution—as a morbid appearance following the occurrence of hæmorrhage—accompanying phthisis—its connection with phthisis. M. Bizot's observations—Coexistent with other disease of the heart—rarely with valvular disease—Instances to the contrary, how far explicable—Hypertrophy and atrophy of the heart are suited to the requirements of the individual—Fatty degeneration of the heart connected with granular disease of the kidneys—Induration of the heart—Fatty degeneration of the heart occurring under various conditions.

In the second division of cases, where there is no evidence to show that the heart disease was the cause of death, it must be regarded simply as a morbid appearance, for the existence of which some cause must be sought in the patient's previous history or particular condition. The groups into which the cases have been thrown, to facilitate the consideration of their chief particulars, must not be looked on, as already remarked, as always displaying this cause. In the first subdivision, however, the preceding circumstance, which was common to them all—namely, hæmorrhage,—has very fair claims to be considered as the cause of the change: so much so, that in this view Case VII. has been placed in this subdivision, as if owning an analogous cause, though the exact cause, after very careful inquiry, remained undiscovered. Rather, however, than class the case on that account with those where death resulted directly from the degeneration, it appears better to regard it as illustrating the

effects of some unknown debilitating agency, such as was the hæmorrhage in the three cases with which it is associated. Of two possible errors this appears to be the least, and, as less tending to magnify the subject under consideration, on the present occasion, the safest.

CASE VII.—*Marasmus—Fatty degeneration of the heart.*

Nicholas Hovenden, aged 40; Matthew back ward, July 1848; a letter sorter, temperate, and healthy till five weeks before admission, when he noticed that he was very pale; then he got weaker, his legs began to swell, and he had palpitation, and pain in the head on standing up; but he had no other pain, nor ever any cough or hæmoptysis, and he said that he lived in an open airy space, on sufficient food, and that he was not overworked.

It would be wearisome to tell how many times he was most carefully examined by the most competent physicians, in order to make out what was the matter with him. His urine varied in specific gravity from 1012 to 1015, and was not albuminous. The left lung was settled to admit air a little more freely than the right, but all were satisfied of the healthy condition of both of them; the heart's sounds also were healthy.

There was little to record, as he slowly sank during the next month, getting weaker, thinner, and more deadly pale, from day to day, and suffering occasionally from diarrhœa, but the evacuations were always found healthy. At last he always kept his bed, as he vomited when he stood up. The blood in the superficial veins appeared of a pink colour, not blue, as in a healthy person. He became a little jaundiced; he was incoherent and fanciful, and refused to take his medicine, and often his food. When he died, on Sept. 8, the case was as obscure as on his admission.

On examination of the body after death, both lungs were found œdematous, especially the right. The heart was of the natural size, pale and flabby, containing a little very pale fluid blood, with a few coagula in the large vessels. The valves were healthy. The right ventricle presented a few buff-coloured lines and spots; the left ventricle was uniformly dotted all over within with such spots, and the same change could be traced deep into the substance of the organ. These buff-coloured spots appeared, under the microscope, to consist of degenerated muscular fibrils. The sarcolemma of the altered fibrils which lay immediately beneath the lining membrane of the ventricle was filled with small oil-globules; those fibrils that were deeper seated were simply granular, and at last striæ appeared on the fibrils taken from near the outer surface.

The thoracic duct was pervious; the stomach and intestines were healthy; the mesenteric glands rather œdematous. The left kidney was paler and harder than the right; there was a little opaque deposit in each of them. Under the microscope the tubes of the left kidney appeared much convoluted, and some casts lay about the field; but there was no excess of fatty matter visible.

That there had been no hæmorrhage in this case was pretty well made out, and each probable cause of the emaciation and debility which suggested itself was carefully inquired into. More especially the state of health of all who lived with him was investigated, on the supposition that the marasmus might depend on some impurity of the food or water which he was in the habit of using. The poor man, so long as his intellect remained clear, used to share largely in the great interest which his condition excited, and all the information that was anyhow accessible was obtained, but all in vain: the case remains perfectly obscure, save for the light thrown upon it by the three following cases:—

CASE VIII.—*Epistaxis—Fatty degeneration of the heart.*

James Skinner, aged 8; Matthew front ward, March 1848; a little, pale, bloodless boy, who had suffered, for the last two months, pain in the limbs, and occasional profuse epistaxis. Latterly, as he became very weak, his legs used to swell at times.

He was under observation for about a fortnight, during which time the epistaxis recurred twice, and it was noticed on the last recurrence of the hæmorrhage, five days before his death, how pale the blood was. He appeared to sink from exhaustion; but just at last, having lain for the previous days in a very drowsy state, he complained of severe pain in the abdomen, and died in a fit of convulsions.

The body was examined 40 hours after death.—The membranes of the brain were exceedingly pale, contrasting strongly with a florid clot of blood, of about 3j. size, which lay in the cavity of the arachnoid, to the right side of the vertex; otherwise the brain was healthy. The lungs were œdematous, with a few purpurous spots scattered over the surface.

There were about two ounces of clear fluid in the pericardium. The heart was of the natural size, the outer surface covered with purpura spots, some of which appeared internally. The whole of both ventricles, both inside and outside, was marked over with numerous little buff-coloured zigzag lines, less thickly set on the right than on the left side, where they quite altered the

appearance of the organ. The valves were healthy. Under the microscope the buff spots appeared to be made up of disorganized muscular fibrils, retaining the external form indeed, but the striæ being replaced by irregular rows of little granules of oily matter, and many loose oil-globules. The healthy contrasted very strongly with the diseased parts of the heart, in the absence of these oil-globules, and in the presence of the natural continuous transverse striæ instead of the granular dotting of the fibrils.

There was a large puckered cicatrix in the great curvature of the stomach. The liver displayed a few purpurous spots; the other organs were healthy.

The only circumstance requiring particular notice in this case seems to be the small effusion of blood into the arachnoid sac,—a less common, but more important, form of hæmorrhage of the anæmic than that which had produced here the purpura spots in the lungs and liver also. One cannot help mentally connecting this cerebral effusion with the liability to epistaxis.

CASE IX.—*Placenta prævia—Fatty degeneration of the heart.*

Clara Donoghue, aged 30, admitted into Ward VIII. of the Dublin Lying-in Hospital, Jan. 30, 1849; twelve hours in labour of her fifth child, the placenta presenting. A dark-looking woman, slightly made; in the seventh month of pregnancy. After labour pains had continued about six hours, the membranes ruptured, and with the waters came a dash of hæmorrhage. She had had a similar dash about the third month. There was another profuse flow of blood about two hours after admission, when the vagina was plugged, and the hæmorrhage ceased. In about twelve hours more the plug was expelled, and, on introducing the hand to remove the presenting placenta, the child's legs being felt, delivery was effected by turning, and extracting the child still-born, and subsequently the placenta also.

The notes of the case record the gradual sinking of this woman: they speak of odd wandering pains, and of frequent rigors. She had cough, and once herpes labialis appeared, but auscultation found nothing amiss in her chest. She lay in bed, deadly pale, very thankful for all attentions, but expressing herself as comfortable, and sleeping quietly to death, which came on February 19.

On examination of the body after death, the heart was found pale, marked outside with many buff-coloured zigzag lines over the right, and more thickly over the left ventricle, on the inner surface also of which a few spots of the same kind were to be seen. A few small soft masses (Laennec's globular vegetations) lay at the apex of the left ventricle. Under the microscope these buff-coloured spots were distinctly seen to be composed of muscular fibrils degenerated into granular fatty matter. Elsewhere the muscular fibrils were quite healthy.

The liver contained a little more fatty matter than usual. The kidneys were pale; the left was in other respects healthy, but the right emulgent veins were obstructed by a large coagulum, coloured at the peripheral ends, but white where it joined on to a large, white, friable coagulum, which occupied the vena cava ascendens from the junction of the common iliac veins nearly to the point of its passage through the liver. The right femoral and uterine veins were also full of old coagulum, and there was a collection of pus about the right ovary, around which the fimbriated end of the corresponding Fallopian tube had contracted adhesions. In other respects the uterus and its appendages were quite healthy.

Assuming in this case the connection between the hæmorrhage and the degeneration of the heart, it seems more likely that the hæmorrhage at the third month was the first cause of this change, than the hæmorrhage accompanying delivery so short a time before death. Proof, indeed, is entirely wanting, but it seems most natural to refer the fatty degeneration of the heart to the earlier hæmorrhage, and to whatever other causes had reduced the patient to the delicate state in which she was on admission. The local and the general atrophy probably all owned the same cause.

One word more on a subject which has already been noticed. In a former page, the connection between capillary phlebitis and growths in the heart has been adverted to. The connection may now be followed out a little further; for here we have the cause, from a more remote point in the circulatory system, displaying its effects on the heart. There appears no reason to doubt that the uterine veins were the primary seat of the affection, which subsequently extended itself up the ascending cava, and thence, through the lungs, to the left ventricle. Why no traces of capillary phlebitis should have been discoverable in the lungs, and why the globular vegetations should have been found only in the left ventricle, it is not easy to explain; only it is rarely the case that these changes respectively are found in the lungs and on the right side of the heart. It is worth while to notice, again, while giving this additional instance of the liability of the same class of persons to fatty degeneration, and to these growths and capillary phlebitis, that there is no

direct connection between the two forms of disease. As far as we may venture to express the sequence of the phenomena of disease in this patient, they were probably as follows:—She had hæmorrhage; thence came atrophy: she had hæmorrhage again, and with it local injury; thence, as in a person predisposed to disease, came phlebitis; and from the effects of phlebitis came the little growths in the heart, whose lodgement there was facilitated by the weakened action of the organ; and death came at last from exhaustion and debility, of which these morbid appearances were in some sort the anatomical expression.

CASE X.—*Hæmorrhage from the bowels—Phthisis—Fatty degeneration of the heart.*

John Kershaw, aged 44; Luke front ward, October 1845*: a policeman; temperate, large, well made: was admitted in a state of great anæmia,—flesh flabby, face dull, surface of the body quite blanched,—having had discharges of red coagulated blood from the bowels during the last three months. Pulse 100, soft, thready, with a little thrill; tongue moist, with a thick brown fur on the dorsum; elsewhere pale and smooth: urine not albuminous.

On *auscultation*, the heart's sounds were heard quite distinct, and unaccompanied by any abnormal murmur; beneath the right clavicle there was some smallish crepitation, with long expiration and pectoriloquy; and, on *percussion*, unnatural dulness.

He sank, after he had been twelve days in the hospital, from the effects of the previous hæmorrhage, little or no blood having passed during the time that he was under observation.

On examination of the body after death, the lungs were found generally slightly emphysematous, with little blood in front, but congested from gravitation behind. There was much pale grey tubercle scattered about, being in granular masses in the posterior part of the left lung, but more compact about the apices, especially about the right, which was so heavy as only just to float in water, and presented, besides, a small, lined, tubercular cavity.

The heart was large, of a pale colour, presenting many little, zig-zag, buff-coloured spots beneath the lining of the left ventricle. There were four pulmonary valves. In other respects the heart was healthy.

There was a large ulcer in the duodenum, apparently the source of the hæmorrhage. The kidneys were small, pale, hard, tough, breaking with an irregular fracture. The capsule was firmly adherent; there were a few small cysts on the surface, and, on section the cortex appeared thin, and was marked with a scanty buff-coloured deposit.

The history of this class of cases is as distinctly marked as was that of the former: it is the gradual sinking to death after hæmorrhage. The history relates, however, almost entirely to the hæmorrhage, not to the change in the heart. If there is any thing in the progress of these cases that may be claimed as at all characteristic of the cardiac lesion, it is the absence of any attempt at rallying during the intervals of the hæmorrhage, as displayed in Cases VIII. and X. Regarding this degeneration as simple atrophy, it is very easy to understand how any great diminution of the quantity, and, at the same time, of the nutritive properties of the blood, might be followed by such a change. But for this specific form of atrophy there would appear to be something more requisite—some specific tendency in the individual; for neither hæmorrhage nor marasmus are frequently followed or accompanied by this change: out of a large number of cases of this nature, the four just detailed are all that I have met with bearing on the present subject.

The case last detailed introduces the next subdivision, including three cases where this degeneration of the heart has been coincident with phthisis. Two of the cases (XII. XIII.) have little interest beyond what they may possess as the basis of a general analysis. But the case next following (XI.) has been given rather more at length on account of its own interest, apart from the peculiar change of the heart under consideration.

CASE XI.—*Acute phthisis—fatty degeneration of the heart.*

Abigail Richmond, aged 15; Hope front ward, April 1847; a foundling, singularly small for her age, of gentle, childish manners, well cared for by her mistress. She had complained of a slight cough for about a fortnight, but nothing was thought of this till one day, on running to meet some friends, her distress of breathing became so great, that, by the advice of a physician who happened to see her at the time, she was sent to the hospital.

She remained under observation about a fortnight, till her death. During this time she had always a dusky look, a rapid pulse, and cough, with scanty expectoration. Auscultation and percussion, repeatedly and most carefully employed, elicited no signs whatever of disease, for the first ten days. Then, suddenly, a change came over her; she became more livid, and her dyspnœa was very urgent: she seemed almost dying. But from this condition she was as suddenly

* Lancet, 1846, p. 117.

roused by the application of a blister-plaster over the sternum. The recovery, however, was only temporary: she relapsed, and died in about three days more. Only once could a little crepitation be heard in the front of the chest.

On examination of the body after death, besides some other appearances not connected with the present subject, the left lung was found free; the right pleura was universally firmly adherent, and a firm white substance lay in the angle between the ribs and the diaphragm (shrunken coagulable lymph). Both lungs were thickly set with little tubercles, about as large as poppy seeds, some larger, and of a less regularly circular form. None of them were softened; only from one of two large, white, cheesy, right-bronchial glands, did fluid exude on pressure. A few miliary tubercles also were found *beneath* the mucous membrane of the bronchi, when the bloody fluid with which they were filled had been sponged away.

The heart was small, and quite healthy, save a few zig-zag buff-coloured lines beneath the endocardium of the left ventricle, which, on examination, were found to consist of degenerated muscular fibrils. A few tubercles were found in the spleen and kidneys; a patch of "capillary phlebitis," certainly not tubercle, in the former, and a few sloughy patches in the pelves of the latter.

This little girl was so well cared for and attended to by her mistress, that the date of the commencement of the disease may be relied on as accurate, at least as near accuracy as we can hope ever to arrive. The case differs from the ordinary run of cases of acute phthisis, in the fact that the fatal termination was mainly due to bronchitis, not to pneumonia. In its extreme obscurity, however, it fully answered the description of cases of this rare form of disease. Indeed, there was a complete absence of all signs from which any diagnosis could be made. This form has been separately described by Dr. Stokes (On Diseases of the Chest, page 415), under the name of acute inflammatory tubercle, without suppuration, as a form in which we are to expect assistance from percussion only, none from auscultation. But the rapidity with which the disease ran on to a fatal termination was such, that at no time was enough tubercle deposited to impair the natural resonance on percussion. Even that source of information as to the nature of the disease was here closed.

Case XII.—*Phthisis—fatty degeneration of the heart.*

John Fox, aged 15; Luke front ward, February 1847; a weaver, very small for his age, always delicate, was admitted in the last stage of phthisis, and died in about three days after admission. His pulmonary symptoms dated about three years back. He had suffered acute rheumatism two years previously, which circumstance caused his heart to be carefully examined. The sounds were reported to be healthy.

On examination after death, the lungs were found full of tubercle in all stages; further advanced in the right than in the left lung.

The heart was of the natural size; the valves healthy. There were buff-coloured, zig-zag spots beneath the endocardium of the right ventricle.

There was nothing of particular relation to the present subject to notice in the healthy state of the other organs examined,—liver, spleen, kidneys, or ileum.

The next case, in the same way, presents nothing to notice beyond the coexistence of phthisis and fatty degeneration of the heart, unless it be the occasional occurrence of pain down the left arm and left side of the chest. But as the pain noticed in the previous cases was behind the sternum, and displayed no tendency to ramify, it seems more natural to attribute this single symptom to the pulmonary than to the slight cardiac disease.

Case XIII.—*Phthisis—fatty degeneration of the heart and liver.*

William Cannon, aged 40; John front ward, September 1848; an intemperate man, who, for the last nine years, had suffered occasional severe pain in the left side of his chest, running down the left arm, came into the hospital to die of phthisis.

On examination of the body after death, besides tubercles of the lungs, extreme fatty degeneration of the liver, and a granular condition of the kidneys, with a little white, fatty deposit, he was found to have a pale, thin, flabby heart, marked on the interior of the right ventricle with a few buff-coloured, zig-zag lines. Under the microscope, the heart, in the vicinity of the zig-zag lines, appeared to have undergone distinct fatty degeneration.

The same remarks which have been made on the subject of general wasting as a cause of fatty degeneration of the heart, may be repeated here with regard to the wasting of phthisis. Without denying to hæmorrhage, or phthisis, or marasmus, their share in first causing atrophy, we want something more to explain why it took this peculiar form in the individual cases.

There are besides two other interesting questions for discussion—I. Can we attribute this change in the heart's structure to changes which phthisis, as a disease of the lungs, induces in the heart's actions? or II. Have we any just grounds for regarding

this as one of the results of the specific tendency to fatty degeneration displayed in the organs of phthisical patients? The first of these questions will be better considered in the sequel. In answer to the second question, much may be gained from the labours of M. Bizot,* who has investigated this subject in the course of his elaborate inquiries. His conclusions may be generally stated thus:—

Fatty degeneration of the heart occurs more often in women than in men, and in fat than in thin subjects. In the hearts of male patients dead of phthisis, there was always a less amount of fat than is natural; but in women the amount of fat was rarely less, commonly equalling or very much exceeding the average of the healthy accumulation. Again, he found that men dying of phthisis had rarely fatty livers, while women were very liable to this change, particularly those that were emaciated, and among these fatty degeneration of the heart was often found. It must be observed that these remarks apply to degeneration of the muscular structure of the heart into, or displacement of it by, adipose tissue, and not to the particular form under consideration.

My own examinations of phthisical patients have been in a large proportion of male subjects; and my notes respecting the state of the health do not generally speak of excess so much as of diminution of fat. So I cannot collate my own observations with those of M. Bizot, with regard to the form of fatty degeneration of which he speaks. But out of more than fifty cases of phthisis, dying as such, the present form has been found only in four cases (X., XI., XII., XIII.), three males and one female; and out of upwards of fifty dying with tubercles, or doubtful remains of tubercles, only in one (XIX.), also a male. Further, only one of these, a male subject (XIII.), had fatty degeneration of the liver. And before drawing any conclusions from the cases, it would be necessary to reduce their numbers still more by excluding Case X., as not fairly exemplifying the effects of phthisis.

The chief differences, then, between M. Bizot's results and mine, are that he finds the affection more common among women, and in connection with fatty liver and general emaciation, than I do. And it appears very probable that this is a correct statement of the difference of circumstances under which the two forms now under examination respectively occur. Regarding the disease under both these forms simply as atrophy, as already observed, there is no difficulty in connecting it with phthisis; and M. Bizot's researches add largely to what was already known concerning the tendency of pulmonary phthisis to induce this particular modification of atrophy. But general experience does not warrant the belief that phthisis is preeminently the cause of fatty degeneration of the heart, even of the form to which M. Bizot's observations refer; for the most striking examples of this form of fatty degeneration of the heart occur in elderly people not phthisical. Perhaps his observations at pp. 356-7 illustrate the form which is the proper subject of this paper, though in the absence of microscopic examination they cannot be quoted as such. The fact of their happening in non-phthisical patients, however, certainly does not show them to have been rudimentary (Louis. Réch. sur la Phthisie, p. 121, 2d ed.), or less perfectly developed manifestations of the disease.*

Thus far there has been some pretext of a natural division, coinciding with the artificial classification of the cases, but henceforth there do not appear to be any grounds for considering the subdivisions as any thing but arbitrary. The next class consists of four cases where there existed disease of the heart or pericardium. Separately they have considerable interest; as a class, save in an exceptional view, almost none.

Case XIV.—*Disease of the tricuspid, mitral, and aortic valves, with fatty degeneration of the heart.*

Sophia Christopher, aged 50; Hope back ward, August 1848; a poor, industrious woman, mother of fourteen children, who had suffered for six years "from the heart," apparently with pain and palpitation, and for three years with anasarca. She came in four days before her death, with orthopnœa, anasarca, and ascites, suffering much, but so deaf that nothing could be elicited directly from her. But from repeated careful examination it appeared that there was no notable increase of the action of the heart, and there was only a suspicion of a murmur with the first sound at the apex. Her urine was not albuminous.

On examination of the body after death, the right side of the heart was found dilated; the tricuspid valves were uniformly white, thick, and rigid up to the edge, evidently not efficient. The left side was not notably dilated or hypertrophied; pale. The mitral orifice was reduced to a slit one inch long, the edges of which formed quite a tube, so much were they thickened. These edges were generally tough and leathery, but in parts, especially at the ends of the fissure, there were earthy patches. The chordæ

* Mémoires de la Société Médicale d'Observation, Tome I. pp. 351, 356. Recherches sur le Cœur, &c.

* Mr. Adams' case, already referred to, might be quoted in support of this objection.

tendineæ were short and thick, and gathered into bundles of parallel fibres. The lining of the left auricle was white and opaque, and in one point, over a flake of bone, quite wanting. The aortic valves were white, opaque, and a little wrinkled, but entire; only rigid, sticking out as round pouches into the stream, which they must evidently have much obstructed, while they must also have allowed of regurgitation. The aorta was much diseased, especially about the attachments of the aortic valves, which were lengthened and ossified. Under the microscope the fibres of the left ventricle appeared singularly granular, but not distinctly fatty. The transverse markings were much less distinct in the muscular fibrils taken from the left than in others taken from the right side of the heart.

The left pleura was free, the lung emphysematous; the right pleura universally adherent, the lung œdematous. The liver was small, weighing under lbij.; the kidneys hard, slightly granular, with the cortex indistinct. The spleen was also hard.

[To be continued.]

CHLOROFORM IN A CASE OF HYDROPHOBIA.

BY S. B. DENTON, ESQ. M.R.C.S.

George Witty, aged 5 years, on his way to the infant school, on the 16th of October, 1848, was bitten by a dog through the under lip. The wound was quite free from pain, and soon healed.

The child betrayed no symptom of indisposition till the expiration of a month. On Sunday, the 12th of November, the child went to school as usual, and nothing uncommon was noticed until dinner time, when he refused to eat anything. His mother asked him why he did not eat his dinner. He replied that he felt sick and weary, and had been so the whole day, accompanied by unusual perspiration. She prevailed on him to eat a little potato, but could not induce him to take any liquid.

Not complaining of any pain he was sent to school again, and during the time he was there the teacher perceived no alteration in his general appearance. When he returned home he again complained of being very tired, and wished to sit upon his mother's knee.

Tea-time came, but he took nothing, and being fatigued was put to bed. When he had been there a short time he asked for something to drink two or three times. Accordingly something was taken to him, and he tried to swallow it, but as soon as it came in contact with his lips he was alarmed, and gasped for breath. Sometimes he would in an agony endeavour to gulp a little tea down, and then throw the cup away with great violence. Upon being asked why he was so impatient, he said he could not help it. After he had obtained some sleep, fever began to make its appearance, and at intervals he was delirious, and occasionally complained of pain in the chest and throat. He continued in this state until the morning. No alteration took place during the whole of Monday, except a wilder expression of the eyes, and he also showed a stronger aversion to drinkables, though it was very evident his thirst had much increased.

On Monday night he again said he had great pain in the chest and throat; the expression of the eyes more fierce, he breathed with with greater difficulty, and inspirations deeper. When his mother put him to bed she threw the clothes in rather a careless manner over him, and the partial air so produced, puffing over his face, occasioned violent involuntary starting and fright, approaching to convulsions, the same as when he attempted to take any fluid. During the whole night he was occasionally delirious, and had frequent short intervals of sleep, but generally awoke in dreadful alarm and fright. About three o'clock on Tuesday morning, the 14th, he awoke in terrific agony, saying that a pin was running into his head. At four o'clock A.M., he jumped out of bed and ran down stairs, "declaring that if he stayed in *that* bed he should choke." His mother followed him, and found him in the kitchen, in strong convulsions. As soon as he recovered a little he rubbed both his sides, and said they hurt him very much; he also would have his mother "feel his sides, as he said they were very soft."

From six to eight o'clock he complained of pain on each side of the head, and then in every part of the body.

At ten o'clock, A.M., a tough, mucous, frothy-like saliva came from his mouth, which continued to increase until his death; frequently the foam accumulated to the size of an orange.

Chloroform was perseveringly administered, but the vapour upon the branches of the olfactory nerve produced such terrific fright, screaming, and convulsions, that *I was glad* to discontinue its use.

Every remedy administered produced not the slightest impression on the complaint. Aconite, opium, Ant. Potassio Tart., enemas, rubefacients, assafœtida, and ice, were energetically used, but without the slightest avail, and the poor sufferer sunk about a quarter past five, P.M., in one long convulsive struggle.—*Provincial Medical Journal*, Oct. 31, 1849.

AN ACCOUNT OF CERTAIN

CHEMICAL AND MICROSCOPICAL RESEARCHES

ON THE BLOOD, EXCRETIONS, AND BREATH IN CHOLERA.

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In a letter which was inserted in a recent number of the Medical Gazette, I gave a short notice of my detection of carbonate of ammonia in the breath, perspiration, and fæcal evacuations of cholera patients; and I there stated it to be my intention, at a future period, to forward to that journal a more complete account of the examination of these matters, together with a description of the *modus operandi*, &c. In accordance with this promise, nearly the whole of the time that has elapsed since the date of that communication has been occupied in collecting and arranging my results for publication. The long delay has been occasioned by my having found it necessary to repeat several of the experiments, in order to convince myself as to their accuracy.

My investigations (in which, as I have before observed, I was occasionally assisted by my father, Prof. W. Herapath) comprise the blood, the vomited matters, the rice-water evacuations, the contents of the intestines, the perspirable matters, and the breath; and it is in this order that the results will be given in the following report. Besides the above, however, I have also recently examined the air and water of infected neighbourhoods, and likewise the atmosphere of cholera hospitals.

A.—*Of the Blood.*

Two specimens of this fluid were analysed. The first of these was removed by my brother, Dr. W. B. Herapath, from one of his patients, a young man, aged 28 years, who had been ill in cholera for several hours, and was fast approaching the stage of collapse. This individual died five and a half hours after the operation of bleeding. For the second specimen I am indebted to the kindness of a young friend of mine, formerly a pupil of my father's, who obtained it from a female, aged 30 years, in the last stage of collapse.

The process of analysis adopted in these cases was similar to the one proposed some short time ago by M. Figuier (Ann. de Chim. et de Phys. xi. p. 503). It is as follows:—

A known quantity of the freshly-drawn blood was beaten with twigs, so as to separate the fibrin. This was afterwards washed from the rods with water, thrown on a tared filter, edulcorated with boiling water, dried in a steam-bath, and weighed. As this, however, contained a small quantity of fat, it was found necessary to digest it for a short time in boiling æther, and again weigh. The defibrinated blood was then mixed with twice its volume of a strong solution of sulphate of soda, and the blood-corpuscles separated by a filter. These were washed by dipping the filter several times successively in boiling water, and afterwards dried and weighed. The albumen was then separated from the filtered serum by boiling, collected on a muslin filter, &c., and the weight noted.

As it was necessary to determine the total amount of the solid matters contained in the blood, some hundred grains of this fluid were taken and evaporated to complete dryness in a saline bath, at a temperature of 220° Fah.; the dried residue was then incinerated with great care, for the purpose of ascertaining the proportion of the inorganic constituents, which were afterwards analysed separately.

The united weight of the fibrine, albumen, globules, and other substances, being then deducted from the entire weight of the solid matters, the loss showed the amount of the extractives.

For the estimation of the urea, two or three thousand grains of the serum were taken and carefully evaporated to dryness at a gentle heat. The albuminous residue was then finely powdered, and repeatedly treated with boiling alcohol, sp. gr. 0·813. The alcoholic solutions were then mixed, and the greater proportion of the alcohol recovered by distillation. To the syrupy mass remaining in the retort there was added a great excess of recently-precipitated tribasic phosphate of silver, and the whole evaporated to dryness. The saline residue thus obtained was next extracted several times successively with pure anhydrous æther, in order to remove the fat and cholesterine which are soluble in that menstruum; and the urea was afterwards dissolved out by boiling anhydrous alcohol, and precipitated as

nitrate by the ordinary process. Every 100 parts of nitrate of urea so produced were considered to be equivalent to 52·46 of pure urea.

The proportion of uric acid present in the blood was ascertained in the ordinary way, by operating upon the matters which were left behind after the action of the boiling alcohol on the dried serum.

Case I.—Specimen thick, tar-like, and dark in colour. The crassamentum did not separate readily. Sp. gr. of the serum about 1·0401.

The examination was commenced within half an hour after venesection.

Its composition in 1000 parts was as follows:—

Water	702·100
Solid matters, containing of urea 0.650 grs., and of uric acid 0.091 grs.	297·900
	1000·

Dr. Pettenkofer's test of sugar and sulphuric acid also showed that there was an abnormal proportion of the constituents of the bile present in the serum.

The weight of the ash from 1000 grains of the blood amounted to 6·075 grains. This consisted of—

Salts soluble in water		4·726
Carbonate of soda and potash	0·710	
Sulphate of soda	0·208	
Phosphate of soda($3NaO,PO^5$)	0·897	
Chloride of sodium	2·911	
Substances insoluble in water		1·349
Peroxide of iron	1·094	
Perphosphate of iron	a little	
Phosphate of lime	0·134	
Phosphate of magnesia	0.110	
Silica	0·011	

Case II.—Specimen much darker in colour than the preceding, to which, however, it otherwise bore a very close resemblance. 1000 grains of this blood were found to contain of—

Water	690·960
Solids	309·040
Corpuscles	160·706
Fibrin	0·989
Albumen	128·650
Fatty matter	2·310
Cholesterine	a little
Urea	0·786
Uric acid	0·089
Biliary matter	an abnormal proportion
Extractives	9·890
Inorganic matter	5·620
	1000·

The inorganic constituents were composed of—

Soluble salts: 3·963	Carbonate of soda	0·401	
	Carbonate of potash	0·202	
	Sulphate of soda	0·185	
	Phosph. of soda ($3NaO,PO^5$)	0·765	
	Chloride of sodium	2·410	
Insoluble constituents: 1·661	Peroxide of iron, with some perphosphate of iron	1·246	
	Phosphates of lime and magnesia, with traces of silica	0·415	
		5·624	

To facilitate comparison I have subjoined an analysis of healthy blood by Becquerel and Rodier, and likewise a more recent one by Figuier:—

	B. and R.	F.
Water	779·00	802·90
Solids	221·00	197·10
Fibrine	2·20	3·90
Globules	141·10	130·60
Albumen	69·40	50·60
Fatty matters	1·50	not determined
Extractive matters and salts	6·80	12·00
	1000·00	1000·00

Nasse obtained from 1000 parts of healthy human blood 7·942 grains of ash, which was composed of—

Soluble salts: 6·677	Alkaline carbonates	0·957	
	Sulphate of soda	0·202	
	Phosphate of soda	0·828	
	Chloride of sodium	4·690	
Insoluble salts: 1·265	Peroxide of iron	0·834	
	Sulphate of lime	0·088	
	Earthy phosphates, with traces of silica	0·343	

I am sorry to say that I have not as yet had a chance of operating upon the arterial blood in a case of cholera, although I have repeatedly endeavoured to procure a specimen. It is my intention, however, to do so at the very first opportunity, as I believe its examination will lead to very interesting results.

B.—*Of the Vomited Matters.*

Only one specimen of these matters has been examined. This was obtained from a female, aged 25 years, who resided in Warner's Court, St. James's, and was admitted into the Cholera Hospital on Sept. 5th ult. It was vomited within a quarter of an hour after her admission into that establishment, she having been attacked with symp-

toms of cholera directly after dinner: this meal consisted of meat and potatoes. It differed only in a very few respects from that analysed by Dr. Taylor (Med. Gaz. Feb. 2, 1849), except in containing a much larger proportion of undigested food. Albumen and casein were also present in it; and, upon a microscopical examination, it was seen to contain a considerable number of amylaceous granules. I likewise noticed in it a few small specimens of those singularly-formed bodies which have been described by Messrs. Brittan and Swayne as "cholera cells."

It was not subjected to a quantitative analysis.

C.—*Of the Fæcal Evacuations.*

The principal physical characters of the cholera dejections are almost too well known to need remark. Indeed, the presence of the peculiar rice-water evacuations, as they are called, is one of the most striking and positive symptoms of Asiatic cholera. They consist generally of a limpid, semi-transparent liquid, which holds in suspension a greater or smaller quantity of a curdy, gelatinous-looking body, not unlike pus in appearance. This latter is evidently composed, for the most part, of the partially digested remains of animal and vegetable food, as numerous starch granules, fragments of cellular and vascular tissue, with pieces of muscular fibre, are to be readily perceived upon a microscopical examination. It also contains some altered epithelium cells, and a few inorganic particles, which have been adventitiously introduced into the alimentary canal. Besides these matters, in those cases in which the patients have been previously treated with calomel, large quantities of a dark-coloured amorphous substance are often met with; which most probably consists of a combination of the chloride of mercury with albumen or some other organic compound, as globules of metallic mercury may be readily obtained from them by the ordinary reduction test. As the aqueous portion of the fæces gradually evaporates, numerous prismatic crystals of the triple phosphate of ammonia and magnesia are deposited, many of which are of considerable size. Upon further concentration a large number of cubic crystals make their appearance, which are doubtless composed of chloride of sodium, as a pretty large proportion of that substance is found in the ash. I have never, however, as yet succeeded in detecting either uric acid or urate of ammonia in the cholera dejections; that is to say, if sufficient care were taken to collect those matters in perfectly clean vessels, so as to preclude all admixture with urine. In some one or two instances, it is true, I have observed crystalline nodules of dark-coloured urate of ammonia in specimens which had been obtained from the nurses at the Cholera Hospital; but in these cases it was generally found, upon investigation, that the ordinary utensils of the establishment had been employed to catch the matters in the hurry of the moment. It is therefore, in my opinion, extremely doubtful whether these crystals ever truly occur in the cholera fæces. Oxalate of lime in the dumb-bell form, however, was constantly observed in greater or smaller quantity in every specimen of the cholera evacuations which I examined, although I could never determine its presence in healthy fæces.

With regard to the chemical properties of these evacuations, they are, in the first place, invariably alkaline; and this alkalinity remains, although in a minor degree, even after boiling. Upon the addition of a diluted acid they effervesce strongly, from the evolution of carbonic acid gas. When freshly voided, they do not discolour either silver or acetate of lead paper; consequently they do not contain hydrosulphuric acid or sulphuret of ammonium. Upon keeping, however, decomposition soon ensues, and they then readily blacken them. When distilled in a retort, at a low temperature, they froth considerably, and an albuminous scum generally rises to the surface. The clear liquid which is condensed in the receiver possesses a decided alkaline reaction, and effervesces upon the addition of an acid; it likewise furnishes a bright-yellow crystalline precipitate of platino-chloride of ammonium when mixed with a few drops of the bichloride of platinum, proving that it essentially consists of carbonate of ammonia. It also contains a small quantity of an odorous principle, which possesses a most offensive and disgusting smell. This matter may be obtained in a concentrated state, as a thin oily film, by

subjecting its aqueous solution to spontaneous evaporation over sulphuric acid. It reduces chloride of gold and nitrate of silver, when exposed to the sun's light, in the same manner as do most other nitrogenous organic matters; and is itself decomposed by concentrated sulphuric acid and chlorine. It exists only in very minute proportion in the evacuations, and consequently could not be further examined. It is, however, evidently quite different in character from the odorous matter which is obtained by the same process from healthy fæces.

The clear serous portion of the dejections behaves with reagents in the following manner:—It produces with acetic acid a slight precipitate of a whitish colour; the quantity of this is greatly increased by the further addition of ferrocyanide of potassium.

Nitric acid, a slight one, soluble in a great excess, forming a yellow solution, the colour of which is deepened by ammonia.

Alcohol and pyrophosphoric acid, white albuminous precipitates.

Tincture of galls, a slight grey precipitate.

Protonitrate of mercury, an abundant, heavy, curdy precipitate, which is partly redissolved upon boiling or the addition of nitric acid.

Acetate of zinc, a white, voluminous, and flocculent one.

Nitrate of silver, a white curdy precipitate, which is evidently not wholly composed of chloride, as it does not deposit readily, and is partly soluble in nitric acid.

On ebullition with a few drops of a solution of plumbate of potash, it becomes considerably darker in colour, indicating the presence of sulphur in the organic matters.

Upon incinerating the residue which is obtained by evaporating the liquid to dryness, there is left a small quantity of a white ash. This is nearly all soluble in water, and the solution possesses a highly alkaline reaction. The ordinary tests show it to contain carbonate of soda and potash, chloride of sodium and sulphate of soda, with a little phosphate of soda. The insoluble residue is principally composed of phosphate of magnesia, with a little phosphate of lime, perphosphate of iron, and silica.

Case I. — The first specimen examined was voided by an old man of the name of M'Carthy, aged 56 years, residing in Philadelphia Street, in the parish of St. Paul's. He was attacked, on the 14th of July last, with all the symptoms of cholera in their worst form; but recovered after a protracted illness of several days' duration.

Physical Characters. — Limpid and nearly colourless, with a yellowish tinge. When first evacuated it was white and curdy; but after being set aside for a short time, the fibrinous and albuminous matters were soon deposited. Highly alkaline; sp. gr. 1·012. 1000 grains of it were found to contain of—

Fat and other matters soluble in boiling æther, with some cholesterine	1·0392
Extractive matters soluble in alcohol, but insoluble in æther; *query*, altered biliary matter	1·5098
Mucus of the intestines, or gelatinous substances soluble in water, but insoluble in the other two menstrua; with some salts	2·6039
Albumen with a little fibrin and casein	1.1176
Carbonate of potash . . .	0·5339
Carbonate of soda	1·9507
Chloride of sodium	2·6291
Residuary matters separable by a filter; consisting most probably of fragments of food, epithelium cells, and mucus; with some crystals of ammonio-phosphate of magnesia, &c.	6·0901
Water and other volatile substances, with 1·494 grs. of carbonate of ammonia . .	982·5257
	1000·

The ash which was obtained from the dried matters of a similar quantity of the fæces weighed 9·9256 grains, and consisted of—

Carbonate of potash	0·6507
Carbonate of soda	2·5960
Sulphate of soda	0·8795
Phosphate of soda ($3NaO,Po^5$) . .	0·0260
Chloride of sodium	3.6334
Carbonate of lime	1.6800
Carbonate of magnesia	traces.
Phosphate of lime	0·2100
Phosphate of magnesia	0·2350
Phosphate of iron	0·0150
Silica	traces.
	9.9256

Case II.—Specimen voided by Ann G., æt. 35 years, a patient in the Cholera Hospital. She heretofore resided on St. James's Back. Was attacked with choleraic symptoms on September 8th, and died three days afterwards. The dejection examined was the first passed subsequent to her introduction into the hospital, and previous to her being treated medicinally.

Its physical characters were very similar to those of the preceding specimen; sp. gr. 1·010. Composition per 1000 grains:—

Fat and other substances soluble in æther	1·2880
Extractive matters and salts soluble in alcohol	1·7184
Mucus of the intestines and other substances soluble in water	2·4498
Alkaline carbonates	2·7961
Albumen, with a little fibrin	0.5412
Chloride of sodium	2·8880
Fragments of food, &c. separable by a filter, with crystals of ammonio-phosphate of magnesia and oxalate of lime.	4·8170
Water and other volatile substances, with 1·381 grs. of carbonate of ammonia.	983·5015
	1000·

The inorganic constituents amounted to 0·813 per cent., and were composed of—

Carbonate of soda	2·8068
Carbonate of potash	0·2923
Sulphate of soda	1·0492
Phosphate of soda	traces.
Chloride of sodium	3·6194
Carbonate of lime	0·2264
Carbonate of magnesia	traces.
Phosphate of lime	traces.
Phosphate of magnesia	0.1357
Perphosphate of iron	traces.
Silica	traces.
	8·1300

Not the slightest trace either of urea or uric acid could be detected in either of the above specimens. It ought perhaps to be mentioned, that although only two analyses of these fæcal evacuations have been recorded here, at least two dozen specimens of them have been examined more or less minutely, and all with very nearly similar results. The only difference worth noticing that was observed, was in the proportion of carbonate of ammonia present. This was invariably found to increase considerably in the more advanced stages of the disease. The subjoined extracts from my note-book will exhibit this more clearly.

Case III.—William Shorland, of Break-neck Street, attacked with cholera on Sept. 25th. Died in collapse on the following day.

The first specimen examined, which was passed directly after seizure, contained 0·1299 per cent. of carbonate of ammonia.

The second specimen, voided three hours afterwards, contained 0·1408 per cent.; and

The third specimen, which was voided when the patient was in the last stage of collapse, contained 0·2089 per cent.

Case IV.—William Bickford, æt. 56 years, residing in Queen Street, St. Philip's. This patient, I believe, recovered.

1st specimen, voided about an hour after seizure, contained 0·1611 per cent. of carbonate of ammonia.

2d specimen, passed early on the following morning, when the symptoms were at their height, contained 0·2402 per cent.

The contents of the intestines of cholera patients, obtained after a *post-mortem* examination, were found to differ in no respect whatever from the dejections, with the exception, perhaps, of possessing a higher specific gravity, and in containing a much larger proportion of epithelium cells. The sulphuretted hydrogen which is usually present in them is doubtless produced by their having undergone spontaneous decomposition after the death of the individual, before their removal from the body.

Berzelius found the constituents of healthy human fæces to be as follows:

Water	733·00
Vegetable and animal remains	70·00
Bile	9·00
Albumen	9.00
Peculiar and extractive matter	27·00
Slimy matter; consisting of biliary matter, peculiar animal and insoluble residue	140·00
Inorganic salts	12·00
	1000·00

These latter were themselves composed of—

Carbonate of soda	9·00
Chloride of sodium	1·00
Sulphate of soda	0.50
Ammonio-phosphate of magnesia	0·50
Phosphate of lime	1·00
	12·00

D.—*Of the Perspirable Matters.*

These were collected for examination by washing the skin of the affected parties with flocks of cotton dipped in perfectly pure distilled water.* The opalescent dirty-looking fluid which was thus obtained was then concentrated by exposure to sulphuric acid under a bell-glass. It afforded a thick and somewhat oily residue, which possessed a decided alkaline reaction, the colour of reddened litmus paper being immediately restored by it. Upon examining this under a microscope, I detected numerous spherical oleaginous globules, and a vast number of heterogeneous organic and inorganic particles; but no "cholera cells," as they are termed, could be observed, although I have from time to time examined more than fourteen specimens of perspiration obtained from about ten different individuals. The microscopes which I employed in these and the following experiments were a Ross's one-twelfth, and a Chevallier's one-eighth of an inch focus.

The proportion of ammoniacal salts contained in 100 parts of these perspirable matters was found in five cases to range between 1·14 and 2·91 grains. No urea or uric acid could be detected in any one instance. I frequently, however, observed congeries of very minute dumb-bell shaped crystals, which seemed to me to consist of oxalate of lime, as they were unaffected by boiling, or by digestion in concentrated acetic acid, but dissolved readily both in dilute nitric and hydrochloric acid.

E.—*Of the Breath.*

The apparatus which I employed for the examination of the breath was extremely simple, but also, at the same time, efficacious. It merely consisted of a glass tube, some eigteen inches or two feet in length, and three-quarters of an inch in diameter, which, by means of the blow-pipe, was bent into the shape of the letter Z or S. When its services were required, it was only necessary to adapt to one end of this a broad mouth-piece of sheet caoutchouc, similar to those used for the inhalation of æther, and it was ready for use. The nostrils of the individual whom it was intended to operate upon having been then closed by the fingers of an assistant, the elastic mouth-piece was tightly fitted round the lips, and the lowest angle of the tube surrounded by a freezing mixture, in order to produce a more rapid condensation of the aqueous particles of the breath. By thus causing the patient to respire through the tube, in a short time there were obtained several grains in weight of a limpid and perfectly colourless liquid. This effervesced slightly upon the addition of an acid, and, when treated with a few drops of chloride of platinum, afforded a very perceptible precipitate of the ammonio-chloride of that metal; thus proving the presence of bicarbonate of ammonia.

Case I.—An old man, aged 65 years, taken with symptoms of cholera two days previously; he subsequently recovered. 10· grains of the condensed fluid yielded 0·31 grains of the ammonio-chloride of platinum, which is equivalent to 0·109 grains of bicarbonate of ammonia.

Case II.—A little boy, aged 12 years, in the last stage of collapse; he died a few hours afterwards. 3·05 grs. of the condensed fluid gave 0·198 grs. of ammonio-chloride = 0·0695 grains of the bicarbonate of ammonia.

Case III.—A young woman, æt. 20 years, a very bad case, but which recovered after several days' illness. 4·01 grains of the fluid furnished 0·201 grains of the platino-chloride = 0·0706 grains of the bicarbonate of ammonia.

More or less correspondent results were also obtained from five other cases which were examined. All of these patients were inmates of the Cholera Hospital; and I cannot allow this opportunity to pass without thanking Mr. Goldney, the resident surgeon of that institution, for the great kindness he invariably exhibited towards me, in affording me every facility for carrying out my operations.

Large as is the proportion of carbonate of ammonia which has thus been shown to be contained in the breath in this disease, there is little or no doubt

* To insure the absence of all ammoniacal salts in the water employed in these investigations, the whole of it was distilled over finely-powdered sulphate of lime.

but that a far greater quantity is actually exhaled by the lungs; for it was found, that if the sides of the S-shaped tube before mentioned were previously wetted with dilute hydrochloric acid, a much more perceptible precipitate of the platino-chloride was produced upon the addition of the bichloride of platinum to the condensed fluid. As this mode of procedure, however, was observed to be extremely distressing to the parties operated upon, it was obliged to be abandoned.

Having thus in the preceding pages given a detailed account of my researches on this interesting and highly important subject, together with a description of the processes which were employed in the investigation, it would now, perhaps, be well to give a summary of my results. In the first place it will be seen, upon reference to the analyses contained under the head A, that the venous blood in cholera differs from the healthy fluid—*first*, in containing a smaller amount of serum, and a larger proportion of globules and albumen; *secondly*, in being deficient in fibrin, and the inorganic salts, more particularly in those which are present in the serum; and *thirdly and lastly*, in containing a vastly abnormal proportion of urea, uric acid, and the constituents of the bile.*

It will also be found upon consulting the other analyses, &c.—

4. That the rice-water evacuations, and in fact all the excretions in this disease, are invariably alkaline.

5. That the alkalinity depends partly upon the presence of carbonate of ammonia, and partly, also, in the case of the dejections, upon that of the carbonates of potash and soda.

6. That the proportion of carbonate of ammonia existing in the excretions increases in a direct ratio to the duration of the disorder.

7. That the fæcal discharges in cholera differ from the healthy fæces, besides in the above respects, in containing a much larger comparative proportion of the soluble inorganic salts, and also of the ammonio-phosphate of magnesia, and the oxalate of lime.*

Few and imperfect as are the observations my professional engagements have permitted me to make, still every one that is at all acquainted with chemical analysis will readily perceive that they were no mean undertaking for a single individual. They are indeed the result of many months' close application. Should they, however, furnish us only with one new fact which will assist us in arriving at a more correct comprehension of the nature of this horrible malady than we at present possess, I shall consider my exertions to have been amply repaid, and the time and trouble that has been expended upon them to have been far from misspent. It was not my original intention to publish these results in so incomplete a form: I had determined to reinvestigate several points upon which I entertain some doubts. I have, however, been prevented from doing so from the want of a subject to operate upon; not a single case of true Asiatic cholera having occurred in this city during the whole of the last week. It is therefore extremely probable that I shall be compelled to wait patiently until the following spring, when, should this unwelcome visitor again make its appearance amongst us, I have fully resolved to again direct my attention to the subject.

Before concluding this paper I ought perhaps to give my opinion relative to the theory of the fungoid origin of cholera which has been lately propounded by Drs. Brittan and Swayne, and has attracted so much attention. That certain peculiarly formed bodies, similar in appearance to those which have been described by the above-mentioned gentlemen, are really present in the cholera dejections and vomited matters, it would now be preposterous to doubt, for I have not only repeatedly seen them with my own eyes (having been induced to look for them at the suggestion of Dr. Brittan), but the fact has been also established

* These are merely confirmative of the results of previous experimenters: Lecanu, O'Shaughnessy, Simon, and Heller, all arrived at similar conclusions. Wittstock, however, could not detect any urea in cholera blood.

* It is more than probable that the oxalic acid of this salt is produced from the uric acid of the blood in the same manner as the carbonate of ammonia must be formed from the urea, by oxidation. If this were admitted to be the case we could readily account for the absence of uric acid and urate of ammonia in the evacuations in this disease, and likewise for the occurrence of oxalate of lime in the exhalations from the skin.

beyond all dispute by the results of every experimenter who has employed a lens of sufficiently high power for their detection. What the nature of these bodies may be, however, whether they be cells or not, I think it would as yet be premature of any one to say. For although they appear to possess many of the outward characters of a cellular organism, still their behaviour with reagents would in my opinion go far to disprove this supposition. In the first place, by the admission of each of their discoverers, they are both hard and brittle, and possess none of the elasticity usually observed in cellular structures. Then, again, they are not in the least affected either by boiling, or by digestion in strong acetic acid, as we should naturally imagine cells would be. Neither are they acted upon to any great extent by concentrated nitric or hydrochloric acid, with the exception perhaps of being rendered somewhat more transparent. The only agent, indeed, of those I have myself tried, that would appear to have any effect upon them, is concentrated sulphuric acid: this partly decomposes and disintegrates them; it does not, however, do so entirely, for even after more than a quarter of an hour's digestion in that menstruum, small fragments of the external annulus still remained untouched.

It must not be imagined, however, that because I admit the presence of these "annular bodies" in the matters above specified, I must therefore agree with Drs. Budd and Brittan relative to their constant occurrence in the air and water of infected neighbourhoods: for although I have repeatedly searched for them in those situations, I have never, even in one instance, met with the slightest success, notwithstanding the operations were conducted with the greatest circumspection, and an apparatus employed which was nearly, if not quite, similar to the one adopted by Dr. Brittan. As it is very possible that some doubts may be hereafter cast upon the accuracy of my results, I think it will be advisable to give the particulars of my mode of operating. My apparatus for the examination of the atmosphere consisted of a small caoutchouc single-valved bellows, capable of containing about a quarter of a cubic foot. To the lower orifice of this there was adapted a glass tube previously bent into the form of a triangle, and furnished with three bulbs: the middle one, and smallest of these bulbs, was then filled with a few drops of water. When, therefore, the bellows was in action, all the air which entered through the lower valve, and was afterwards forced out of the jet, was compelled to pass through the water contained in the triangle. By this arrangement it was conceived that if the supposed organisms did really occur in the air, even in the most minute proportion, they would necessarily be collected in increased quantity in the few drops of water, and be thus rendered capable of detection by the microscope. Notwithstanding, however, that several dozen cubic feet of air from some of the worst neighbourhoods in Bristol were thus passed through the apparatus, no trace of the "cholera cells" could be discovered. In this way I have examined, with negative results, first, the atmosphere of the wards of the Cholera Hospital in Peter Street; secondly, that of a chamber of a house situated in a court in Lewin's Mead, where two children had been attacked with Asiatic cholera in its most virulent form, and died the same day, and where two other younger children, brother and sister to the former, were still lying with symptoms of choleraic diarrhœa; and, thirdly, the atmosphere of a house in Temple Street, at a period when the disease was rife there, two persons having been removed from the chamber on the same day to the Cholera Hospital.

I have also examined a specimen of the identical water which had been drunk by the children who had afterwards died in Lewin's Mead, and also another specimen of the same liquid from the court in Temple Street; but in both instances with a similar want of success. In these cases I may observe that the water was concentrated by heat, or by spontaneous evaporation over sulphuric acid, previously to its microscopical examination. By these means the contents of several thousand grains of the water were condensed into the bulk of a few drops: still, not one single cell could be discovered, although in both experiments a great number of inorganic particles of all sizes were observed, many of which bore some resemblance in form to the "cholera cells" previously mentioned.

The inorganic character, however, of these particles was undoubted, and could be readily proved by their remaining intact after exposure to a red heat. It would, therefore, be as well if Dr. Budd would state more distinctly his mode of procedure, as it is barely possible that the presence of these inorganic bodies may have caused him to arrive at an erroneous conclusion.

Now, if any dependence is to be placed upon the facts just related, it is clear that the ingenious theories of Drs. Budd and Swayne, which would attribute the origin of this epidemic to the presence of these organisms in the water and atmosphere, must be considered to be completely overturned; for if it is possible to be proved indisputably, only in one instance, that a case of cholera may occur at the same time that these cells are absent both from the water and from the air, it is evident that we must look in some other direction for the *fons et origo mali;* or, at all events, if they are truly the cause of the disease, then they must be capable of entering into the human organism by some other means than we are at present acquainted with.

However this may be, the subject is one which well deserves further investigation; and I hope that my fellow-labourers in this field of research, who are more happily, or rather unhappily, circumstanced with respect to patients than myself, will do everything in their power either to confirm or disprove my experiments.

Mansion House, Old Park, Bristol,
Oct. 21st, 1849.

PRACTICAL OBSERVATIONS ON THE TREATMENT OF INSANITY.

By William Smith,

Formerly Resident Surgeon in the Lincoln Lunatic Asylum, and subsequently in the General Hospital at Lincoln.

[Continued from p. 713.]

In further support of the principle advocated at the commencement of my last communication, I take leave to quote some excellent practical remarks, extracted from the "50th Report of the Friends' Retreat near York, 1846." "But whatever might be the expectations of the early managers, with respect to the benefits to be derived from the medical treatment of insanity, Dr. Fowler had free scope in the Retreat for the exercise of his art, and he entered upon the service with great zeal. He gave a careful trial to various means recommended by his contemporaries as efficacious in the treatment of insanity; but he soon came to the conclusion that there are no specifics for this disease, and that the only rational grounds of pharmaceutical treatment are to be derived from a careful observation of the physical indications of disease accompanying the mental disturbance in each individual case. These he, and his coadjutor Pepson, carefully attended to, but they soon perceived the discrimination which was required in the treatment of these indications in the case of the insane, and they may be said to have adopted what is now called the expectant system — they waited upon nature—and they were led to the painful conclusion, that in not a few cases which were brought under their notice, the loss of reason had been permanently confirmed by the active and reducing means which had been previously almost indiscriminately employed.

"Dr. Fowler saw at once the distinction which was to be made in treatment between the excitement of insanity and a state of decided inflammatory action; and, in cases of melancholy, instead of purging away the 'black bile,' as a matter of course, he generally sought to strengthen the system of the patient by a liberal diet, fresh air, and exercise: a nutritious diet was indeed one of the early characteristics of the Retreat regimen. From the history of patients brought under care at an early period, it was evident that the reducing system had been extensively used: low diet, as well as active depletory means, had generally been resorted to. To the abandonment of this system must, we believe, be attributed, in no inconsiderable degree, the mental recovery of many patients, as well as the preservation of life, and the increase of its comfort. The mortality at the Retreat during the first twenty years of its establishment was rather under 4 per cent. on the number resident. What was the mortality of the insane in general, who were under care in public or private institutions of all kinds,

cannot be accurately determined, but we believe it would be considerably below the truth if we estimate the deaths at 16 per cent. on the number resident. We are aware that the smaller mortality in the Society of Friends, as compared with the population at large, must be taken into the account in consideration of this discrepancy, as well as the better physical condition of the patients at the time of their admission into the Retreat, than that of the poorer class of patients who come under the care of other establishments; but when full allowance has been made for these considerations, there will remain, we apprehend, a large excess of mortality, which is fairly attributable to the general system of physical treatment, and to the gross neglect which prevailed in the management of the insane during that period.

"It is refreshing to turn away from the cruel quackery of the high professors of that day, to the sound philosophical course of the genuine and conscientious physician. It will be allowed to have been no unimportant step to have abandoned the practices which fifty years ago marked the general medical treatment of insanity, and to have followed out, simply and patiently, the suggestions of reason and humanity, confirmed or corrected by close observation and experience. We are aware that there were many English physicians besides Dr. Fowler who eschewed the empirical practice of the hospitals of London and York, and who pursued a more humane and enlightened course of treatment. It has been said of one that he

> 'Gave melancholy up to nature's care,
> And sent the patient into purer air.'

Nor do we forget that at the period to which we are referring, the admirable Pinel had greatly reformed the Bicêtre at Paris, and was acting upon his subsequent declaration, that he 'attached little importance to pharmaceutic preparations, and all sufficiency, in curable cases, to physical and moral regimen.' "

I make no apology for introducing this long extract: the extreme value of the material, and the philosophic spirit pervading the whole, must recommend it to every true lover of science. I lay no claim to originality in these observations: my object is to select and arrange such matter as my own experience teaches me will afford a clear insight (even to the most superficial inquirer) into those grand principles upon which alone psychological medicine can be safely and scientifically established. In the treatment of disease, be it insanity or any other, the more simple and uncomplicated our views, the more successful will be our practice. On this ground the admirable work of Pinel has always struck me as being the most simple and philosophical treatise on mental derangement extant: in that small volume is contained the germ or ovum of "the Humane System of Non-restraint and Non-seclusion:" from that source, as from an inexhaustible "fountain of living waters," Samuel Tuke, of York, Charlesworth, Conolly, and all our greatest authorities, have drank deep draughts of noble inspiration, and there yet remains an abundant supply for those who thirst after sound knowledge, and desire to imbibe the rich and fertilizing draughts of philosophy. The late Dr. Burrows, in the introduction to his lucid "Commentaries on Insanity," has remarked, "But I think the various phenomena which insanity presents have not been sufficiently studied, either in concurrence or sequence, or in relation to, or combination with, other cerebral affections." With the truth of this observation I most cordially agree, but would extend the principle still further —namely, to diseases affecting other organs of the human body. Until we can cut off the telegraph wires—that is, destroy the nervous influence (and sympathy consequent thereupon) existing between the brain (sensorium) and other important organs of the body, we must have action and reaction taking place; and to attempt the treatment of any disease without taking into account this fundamental principle of our existence, is empiricism of the lowest grade. Insanity, for anything we know positively to the contrary, may be a blood disease, like gout, scrofula, syphilis, &c., and there are many forcible reasons which induce me to take this view of the subject: 1st. Insanity is pre-eminently an hereditary disease, thereby distinctly proving it to be a constitutional disorder; 2d. The important fact that remedies addressed to the constitution generally,

and not to the brain specifically, cure mental disorders; 3d. That remedies calculated to reduce the constitutional powers (such as copious blood-letting, drastic purgatives, and other powerful evacuants, fluid innutritious diet, and long-continued coercion of any kind, &c.) have a direct tendency to exasperate mental disease, and render it chronic and incurable. From all these circumstances, from the results of my own experience, and an attentive perusal of the best authors, I incline to the belief that insanity (in the majority of cases) is a blood disease, and that our remedies ought to be brought to bear on the system generally, and not on the brain (sensorium) specifically; and further, that the system hitherto adopted of describing mental disorders (in professed treatises) exclusively and unconnected with the condition of other organs, is mischievous, and unworthy of the present enlightened age.

The illustrious Pinel, at page 39 of his work, has a chapter with the following superscription:—"Are not maniacal paroxysms the effects of a salutary reaction of the system?" In proof whereof he proceeds to remark—"The celebrated Stahl, in his views and treatment of fever soared above the petty province of philopharmaceutic medicine, to the general consideration of a principle of conservation, whose office it is to repel any attack upon the system injurious to its well-being, or fatal to its existence. May not the same principle be applied to the theory of insanity? In the beginning of this complaint an unusual sensation is felt in the epigastric region, symptomatic it would appear of some great commotion in the centre of the system; which upon repetition is felt to extend as far as the abdominal plexus, and to produce a spasmodic oppression of the precordia, heat of the bowels, and costiveness. Soon after, a general reaction is excited, stronger or weaker according to the sensibility of the individual. The face becomes flushed, the circulation quicker, and the epigastric powers appear to receive a secondary impulse very different from the first in its nature and effects. Muscular irritability is now greatly increased, and the understanding itself is involved in the movements which nature has established for throwing off the disease. Several of the functions are either wholly or partially changed: sometimes they are impaired, sometimes increased in their energy. In the midst of these disturbances the gastric and abdominal affections, after having continued some time, cease. A calm succeeds, and brings with it a recovery more or less permanent. If the paroxysm has not arisen to the degree of energy necessary, the same circle of action is again repeated and continued periodically, diminishing gradually in violence, until a complete recovery is established. Out of thirty-two madmen, with irregular periodical insanity, twenty-nine were restored: some by a prompt suppression, others by a progressive diminution in the violence and duration of the paroxysms. The remaining three continued to be visited by fits of increasing violence, until nature, at length exhausted, gave up the dismal conflict. Is it not probable that in those unfortunate cases, the general and salutary laws of the vis conservatrix were impeded in their action by some organic lesion of the nervous system? We meet with analogous exceptions in fevers, both of the intermittent and continued type.

"I might here enumerate many other incontestible facts in favour of the salutary effects of paroxysms of periodical insanity. A few shall suffice:—Five young men, between the ages of eighteen and twenty-eight, were admitted at Bicêtre, whose intellectual faculties appeared really obliterated. They continued in that state, some for three months, some for six, and others for more than a twelvemonth. After those intervals of different duration, they were severally attacked by a paroxysm of considerable violence, which lasted from fifteen to twenty-five days; after which they recovered the perfect use of their reason. It would, however, appear that it is only during the vigour of youth that the system is susceptible of the reaction which has been described to any very salutary extent, since I cannot recollect more than one instance of a cure after the age of forty during my official attendance at the Asylum de Bicêtre.

"I may now presume upon the reader's acquiescence, when I assert that paroxyms of active insanity, are, in some circumstances, to be hailed as salutary efforts of nature to throw off the disease. It is only when periodical

mania, whether regular or irregular, threatens, from the increasing violence and duration of the fits, to become fatal, or to degenerate into continued insanity, that we ought to seek the aid of powerful medicaments. The remedies then to be used are the bath, shower bath, opium, camphor, and other antispasmodics, whose efficacy appears to be agreed upon, but whose operation still remains to be elucidated, notwithstanding the brilliant theories of Dr. Brown."

The more deeply I investigate the phenomena of insanity, and the more I reflect upon the recorded opinions of the most eminent men in this branch of medical science, the more strongly am I impressed with a conviction of the mischievous tendency resulting from a separation of mental disorders from those affecting other parts of the human frame. Nothing, to my thinking, has tended more to retard the real advancement of psychological medicine than this unnatural division, aided by the infinitesimal divisions and subdivisions into which professed writers have thought fit to divide the subject. Were mental disorders once placed in the same category with chorea, hysteria, epilepsy, &c., one half of our difficulties would at once vanish; the merest tyro, just entering upon his medical novitiate, would scarcely venture to treat hysteria as an inflammatory affection; but let a surgeon even of eminence be consulted in a case of mania, and the chances are ten to one but that he recommends bloodletting and other depletive measures, and it is only when the unfortunate patient has been "bled, blistered, and setoned," &c., and the disease rendered almost, if not absolutely, incurable, that he is turned over to the nearest mad-house. Now I maintain that the two diseases, mania and hysteria, have many points of analogy.

That sagacious physician, and most accurate observer of disease, Dr. P. M. Latham, has remarked, in the Preface to his valuable "Lectures on Diseases of the Heart"—"The study of our times has been chiefly to specialize and to localize disease, and it has had very useful results. But it has had a tendency to narrow our views, and to cripple our practice, by setting up as many several pathologies within the body as there are organs. Yet no sooner do the diseases of separate parts come to be treated, than they begin to claim their place in a common pathology. We cannot reach them, and apply our remedies directly to them, in the isolated spots wherein we find them; but if they are to be reached, and treated at all, it must be through the vascular system, or through the nervous system, or through the digestive and assimilative system. For these are the common agents of life, and increase, both healthy and unhealthy, and the common channels, both of food and of medicine." Are not these remarks especially applicable to the treatment of insanity? We may strive to localize mental disorders in the brain exclusively, but will not such a plan tend "to narrow our views and cripple our practice?" We can no more treat scientifically mental derangement by remedies specially directed to the brain, than we can cure a syphilitic bubo by local applications to the groin,—at all events, the constitution would not be protected against the occurrence of secondary symptoms. If insanity be an hereditary disease (and no one will dispute the fact of its being so), it must of necessity be a constitutional affection,—that being granted, it must follow that it is a blood disease. May not the system be so saturated with the maniacal virus (in many families) as that a very slight predisposing cause may light the smouldering heat into a bright flame? We have daily proof before our eyes, as regards the *materies morbi* of scrofula; and I see no reason why the same principle may not extend to insanity. The fact of insanity being occasionally produced by blows on the head does not overthrow my argument; and where the disease has been caused by excessive indulgence in alcoholic fluids, is not the brain poisoned, as it were, by the alcohol being absorbed by the stomach, and afterwards taken into the blood, and thus circulated to the brain?

Belper, South Derbyshire,
October 10, 1849.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 16, 1849.

THE Quarterly Return of the Registrar-General just issued, is a document which cannot fail to be of great interest to the medical statistician. It contains a complete history of the progress and mortality of a malignant pestilence, which, in a degree unexampled for nearly two centuries, has spread devastation throughout the land. It will occasion no surprise to our readers to find that the deaths during the quarter are in greater number than have ever before been registered. Contrary to the usual rule they exceeded the births, so that there has been an actual decrease of population. Thus, during the three months ending September 30th, there were—

	In England.	In London.
Deaths . . .	135,364	27109
Births . . .	135,200	17224
Excess of deaths over births .	164	9885

It will be perceived that while in all England the deaths were only in a small proportion above the births, in London the excess of deaths amounted to nearly ten thousand!

The influence of the cholera on the general mortality of England will be apparent on comparing the respective number of deaths in the summer quarters during the five years which have elapsed since 1845.

Quarter ending September 30th.	Deaths.
1845	74872
1846	101663
1847	93435
1848	87762
1849	135364

"The deaths in the last summer quarter exceeded the deaths in the summer of 1845 by 60492; the annual rates of mortality in the two summers were 1·767 and 3·030 respectively; so that the latter exceeded the former by 71 per cent. The average rate per annum of mortality is generally lower in the summer than in either of the other three quarters; during the eleven summers 1838-48 it was 1·983. The annual mortality of the summer quarter of 1849 exceeded the quarterly average by 53 per cent. The excess has been caused almost entirely by the cholera.

"The mortality will be found to have been very unequally distributed over the country; and to have generally been the greatest in the dense town populations. This is evident on comparing the deaths in the 117 districts of the old quarterly return—comprising London, some agricultural districts, and the principal towns and cities—with the rest of England. The average annual rate of mortality in the town districts is 26; in the country districts 18 in a thousand: during the last quarter these numbers became 41 and 23 respectively.

"While the mortality has been excessive in nine divisions, it has been below or a little above the average in two divisions—the North Midland, and the South Midland—or in the counties of Buckingham, Oxford, Northampton, Huntingdon, Bedford, Cambridge, Hereford, Worcester, Leicester, Rutland, Lincoln, Nottingham, Derby; also in the North Riding of Yorkshire, Cumberland, Westmorland, and North Wales. The difference will be more apparent upon examining the several districts; in some the people have died by hundreds, or by thousands; in others not far distant, few have died, the inhabitants have been unusually healthy; the "medical men (says a Registrar) say that they have had nothing to do."

As London has suffered more severely than any other locality, we subjoin an extract from the return in reference to the quarterly deaths in the metropolis:—

"The deaths in London were 27109, and exceeded the births (17224) by 9885. The deaths by diseases of the zymotic class, were 17763; by other diseases, 9287; the causes of 59 deaths

were unspecified, only 78 deaths from small-pox, and 274 from measles were registered;—428 from hooping-cough, 386 from scarlatina. The epidemic of scarlatina, of which 1560 persons died in the summer quarter of 1848, thus suddenly subsided. Of typhus, 710 persons died. The deaths from influenza were 9. Although influenza and cholera often succeed each other alternately, their co-existence as epidemics appears never to have been witnessed.

"A disease in which the patient is restless, anxious, convulsed, and death-stricken the moment he shrinks from the sight of water, was formerly of common occurrence in London. No death from that cause has been recorded in the last five summers. Yet hydrophobia is inevitably fatal, and medicine is of no more avail when its symptoms are revealed than it is in cholera; but the wise course of removing its causes has been tried, and bids fair to create a permanent blank in the London nosology.

"The causes of typhus, of influenza, of cholera, and of the like diseases, will not long, we may hope, remain in undisturbed possession of the earth and air of this city. Hydrophobia disappears when the dogs which are liable to become mad or to be bitten every summer are removed by police regulations; so will the other zymotic diseases give way when that putrid, decaying, noisome atmosphere exhaled by churchyards, slaughter-houses, the tanks of dirty water companies, cesspools, sewers, crowded dwellings, is purified and dissipated. The sewers and cesspools now under our houses will inflict more pains and destroy more living than ten thousand mad dogs let loose in the streets; they may as certainly be removed; and yet it is to be feared that many years will elapse before anything effectual is done, or any such satisfactory result can be recorded as the extinction of another disease in this great city.

"A mortality from cholera slightly above the average was observed in July and August, 1848; but the deaths from this cause were less numerous than in 1846, and in September did not exceed 7 weekly; in the weeks of October and November the deaths ran up, and 13, 30, 45, 34, 65, 62 deaths were registered. The new epidemic character was manifest; but the mortality declined to 30 and 20, fluctuated from 94 to 37 through January and February, and finally fell to 4 in the last week of March, to 1 and 2 weekly in April and May. The deaths from cholera in the last weeks of May and in June were 1, 5, 9, 22, 42, 49, 124. The water of the Thames rose to the temperature of 60° at the end of May; and the weekly deaths in July and August were 152, 339, 678, 783, 926, 823, 1230, 1272, 1663; in the first week of September, 2026 deaths from cholera were registered; and the epidemic then rapidly subsiding, the deaths fell to 1682, 839, 434, in the last three weeks of the month. The temperature of the Thames fell below 60° in September 16—22, The deaths from all causes were 3183, or about three times the average number, in the first week of September; and 27109, or double the average, in the thirteen weeks of the quarter. The mortality from cholera varied in different districts of the metropolis from 8 to 239 in 10000, and was greatest in the low, the worst drained, the poorest districts, —the districts supplied with water from the Thames between Waterloo Bridge and Battersea New Town."

Deaths in London from Cholera in each Quarter of the Years 1840-49.

Years.	Quarters ending			
	March.	June.	Sept.	Dec.
1840	3	4	53	6
1841	1	1	23	3
1842	–	7	106	13
1843	6	8	60	14
1844	4	9	47	5
1845	4	2	26	11
1846	7	9	197	15
1847	3	4	98	12
1848	9	17	153	468
1849	516	268	12847	–

While we accept the numbers and record the valuable facts of this report, we must object to the plan here pursued of interweaving questionable theories with them. According to the writer, although it is rather implied than stated, the increase of deaths from cholera has some mysterious connection with the temperature of the water

of the Thames; but surely there is no reason to regard the simultaneous occurrence of this rise and fall of temperature with the increase and diminution of deaths from cholera, in any other light than as a mere coincidence. In other countries and localities the increase of the deaths from cholera—as at Archangel, for instance, —has been observed to keep pace with the fall of temperature and the freezing of the water; and we thought it had been now generally admitted that changes of temperature, whether in air or water, were not sufficient to account for the diffusion or fatal progress of the disease. In reference to this subject we must remind the Registrar-General of one of his own facts,—namely, that the cholera appeared suddenly, and with terribly fatal effects, at the Infant Pauper Asylum, Tooting, in December last, when the Thames water must have been considerably below 60°; and there should therefore have been no deaths from cholera if this hypothesis had any substantial foundation. Much mischief has been done to medical science by the adoption of such limited views regarding epidemics.

We wish we could agree with the writer in thinking that cholera might be as easily eradicated by police-regulations as hydrophobia. In this he appears to us to be too sanguine. An invisible intangible poison, the origin and mode of propagation of which is altogether a mystery, is not so easily disposed of as the body of a dog. The removal of cesspools and sewers will doubtless be productive of good; but it is an exaggerated view of the benefits, to assert that we shall thereby rid ourselves of cholera as readily as we can suppress hydrophobia by the extinction of the canine species.

Reviews.

Manuals of the Duties of Poor-Law Officers.—Medical Officer. By Wm. Golden Lumley, Esq., Barrister-at-Law, &c. Small 8vo. pp. 92. London: Charles Knight. 1849.

A manual like that before us has been long wanted. Many medical practitioners have sought appointments under the Poor-Law without really being aware of the responsibilities which they would incur in the event of their wishes being realized; and others, after receiving the appointment, have found the rules and regulations so vexatious, and the office so little remunerative, that they have been glad to abandon it. Mr. Lumley's Manual supplies precisely that kind of information which a Poor-Law medical officer requires; and it is our opinion that no practitioner, whether holding the office or looking out for a vacancy, should be without it. The author's connection with the Poor-Law Board has enabled him to supply, in the shape of notes, much valuable information regarding the legal signification of the rules and regulations, the conditions under which remuneration for extra services is allowed, &c.: in short, the reader will find here a full account of the mode of appointment, the requisite qualifications, and the remuneration of the Officer, the term of his office, and the regulations as to the personal discharge of his duties. We are not acquainted with any other work which supplies the useful information contained in this volume.

We would here suggest to the publisher that there is room for other manuals on subjects affecting largely the interests of the medical profession, —*e. g.*, among others, a Manual of the Duties of Medical Witnesses before Coroners and Magistrates. It is astonishing what an amount of ignorance prevails on this subject in the profession. Practitioners, as we have lately seen, may have all sorts of tricks played with them: they are deprived of their fees on frivolous pretences, and vainly seek redress in County Courts, for the want of a proper guide as to their legal duties and responsibilities.

Lectures on Electricity and Galvanism, in their Physiological and Therapeutical Relations. By GOLDING BIRD, M.D., F.R.S. &c. 8vo. pp. 212. London: Longmans. 1849.

WE lose no time in announcing the reprint of these interesting lectures from the pages of this journal. They were delivered by the author at the Royal College of Physicians in the spring of 1847, and were published in the volumes of the MEDICAL GAZETTE for that year. The novelty of views and the research which they displayed rendered them deservedly popular, and in consequence of numerous applications having been made for the numbers of the journal containing them, Dr. Bird has been induced to revise and extend them. They are now published in a compendious form, with numerous illustrations, and with such additions as the progress of science had rendered necessary. The volume will be found useful by those practitioners who desire to acquire a practical knowledge of the therapeutical applications of electricity.

The Modern Housewife or Ménagère. By ALEXIS SOYER. 8vo. pp. 430. London: Simpkin and Marshall. 1849.

THE greater portion of this work is distinctly beyond the limits of practical medicine, but nevertheless we can on the best authority recommend it on the ground of its intrinsic merits, as well as on the score of economy—a point not unimportant to some practitioners of medicine. Such portions of the work as refer to the diet of invalids and children, we have more closely examined, and do not hesitate to express our entire satisfaction with the directions given. We think our medical readers may very safely recommend this work to their patients; for although quantity is perhaps of more importance in diet than quality, we feel that, without the minuteness of detail which is often shown in reference to articles of food, much depends on the culinary operations as to whether the process of digestion be easily and perfectly performed or not.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, November 5, 1849.

CÆSAR HAWKINS, ESQ., in the Chair.

Dr. PEACOCK exhibited

A largely open Foramen Ovale, dependent on Contraction of the Aortic Orifice.

The patient from whom this specimen was removed had been under Dr. Peacock's care at the City Hospital for Diseases of the Chest. She was a girl of 8 years of age, who, though always delicate, had never had any serious disease till she was attacked with measles two years before her death.

When first seen in May last, she presented all the symptoms of cardiac asthma, and a systolic murmur was heard in the præcordia, and most intensely below the nipple. She died in October.

The body was examined by Mr. Furze, the clinical assistant. The heart was found very large, weighing six ounces and a half avoird. The aortic orifice was much contracted, admitting only a cylinder, measuring nineteen French lines in circumference, while the pulmonic aperture gave passage to one of thirty-six lines. The aortic valves presented no other signs of disease than some slight thickening and opacity, and were quite competent. The ventricles were much dilated, and their walls considerably increased in thickness. The auriculo-ventricular and pulmonic valves, though slightly opaque, and in places a little thickened, were otherwise healthy. The auricles were very large, and, especially the left, hypertrophied. The foramen ovale was so largely open as freely to admit the forefinger, and its valve was quite loose and incapable of closing the aperture.

The case presented an example of the persistence of the foramen ovale, occasioned by contraction, or, more properly speaking, an original smallness of the aortic orifice. The closure of the foramen ovale was frequently prevented after birth, by obstruction at the pulmonic orifice, and occasionally by contraction of the right auriculo-ventricular aperture; but the permanent patency of the opening, from obstruction at the aortic orifice, was of rare occurrence. In this case the flow of blood must have been from the left into the right auricle—the reverse of that which ordinarily obtains. There was no decided cyanosis at any time, the obstruction not having been sufficiently great to create very material venous congestion.

Dr. Williams exhibited a specimen and drawing of

Carcinomatous Tumors on the Dura Mater, in connection with Cancer of the Breast, Abdomen, Integuments, &c.

The patient (a lady aged 56) had been the subject of scirrhus of the right breast for upwards of ten years, during the first five of which the general health had not been much impaired. Five years ago, pain after eating, and other symptoms of severe gastric and intestinal irritation, came on, and it was supposed that cancerous disease had become developed in the abdomen. A tumor to the left of the epigastrium was distinctly palpable, pulsating with a wheezing noise, but not through its whole mass, and the whiz obviously varied with the pressure of the stethoscope. Severe dysenteric symptoms afterwards set in, and to all appearance the patient seemed to be rapidly sinking. She, however, recovered under assiduous treatment, and slowly regained a considerable amount of flesh and strength. During the last two years the health had been gradually declining. The tumor of the breast had slowly ulcerated to a moderate extent; the lungs having exhibited symptoms of irritation and disease, with cough, expectoration of blood and pus, dulness, and large tubular sounds in the left back. These had not increased, but the strength and flesh had more rapidly declined in the last few months. She had often complained of headache; and the right eye, the sight of which had been gradually lost some years before, became more opaque externally. Several small cutaneous tubercles appeared on the chest and abdomen; and, in addition to the tumor which was felt as formerly to the right of the epigastrium, a small rounded one with a central depression was distinguished below the right ribs, in the site of the margin of the liver. A week before her death she was seized with a severe and protracted convulsion fit, during which her left femur was fractured. She entirely recovered her consciousness, and no cerebral symptom remained except a slight weakness and numbness of the fingers of the left hand, and the feeling as of a cobweb on the left side of the face. The patient gradually sank with increasing weakness and shortness of breath, but retained her intellects to the last.

On examination after death, the tumor in the right breast was found of very moderate size, nodulated, and deeply ulcerated in two points; the ulcers remarkably dry. Several cancerous tubercles in the skin of the chest and abdomen: they were little elevated, dry, tough, and several depressed and withered in the centre. A tumor of the size of a walnut in the left groin. About 8 oz. of bloody serum in the left pleura, with a few flakes of very opaque dirty-white lymph adhering to the lung. The pulmonary pleura of both lungs were mottled all over with slightly elevated patches of various sizes: they consisted of flat cancerous growths under the pleura, of tough texture, and grating under the scalpel. A few small rounded masses of similar aspect, but less tough, were scattered through the parenchyma of both lungs. The lower lobes of both lungs were hepatized; in the left lower lobe was a patch as large as a walnut of a dark greenish grey colour, of very fœtid odour, with its centre reduced to a purilaginous softness, and with a line of light grey deposit around the circumference. (There had been no fœtor during life indicative of this gangrene).

The liver was throughout studded with cancerous tubera, in size varying from a small pea to a walnut, not very firm in consistence, and not presenting the radiated appearance with prolongations into the adjoining tissues commonly seen in cancerous tubera in the liver. Some of the tubera on the surface were umbilicated in the centre, and one such lay near the lower edge of the right lobe under the margin of the ribs corresponding with the little tumor felt during life. The pancreas was large and prominent, from an aggregation of small cancerous tumors resembling enlarged lymphatic glands, but glistening, hard, and grating under the knife: these formed the tumor felt during life to the left of the epigastrium; it lay behind the pyloric end of the stomach and duodenum, but had not invaded their substance. The stomach and intestines generally were pale and attenuated. Both ovaries were enlarged; the left, to the size of a pullet's egg, was of dense scirrhous substance throughout; the right less invaded with scirrhous matter, and in parts retained some of its natural vesicular structure.

A small, flat, rounded tumor adhered firmly to the pericranium of the right parietal bone. In the dura mater covering the right hemisphere of the brain were several thin circular cancerous masses of firm structure, and of size varying from an inch and a half to a line in diameter: they had agglutinated the arachnoid and pia mater to them, so that the cerebral convolutions were laid bare on raising the dura mater. The brain was rather soft, especially in the corpus striatum of the right side, but it presented no other sign of disease.

All the cancerous masses yielded, on being scraped, a little pulpy matter, which under the microscope exhibited very numerous nucleated cells, very small, chiefly oval, and not very distinct in nucleus or outline; some contained a double nucleus. The fibres of the stroma were less regular and

lucid than usual. To the naked eye there was none of the appearance of large vascular growths which are conspicuous in the more rapidly spreading forms of cancer.

These peculiar characters—namely, the small size and less perfect development of the cells, the irregularity and comparatively dwindled appearance of the fibres, and, to the naked eye, the absence of all traces of luxuriant or rapid growth,—corresponded with the slow progress of the cancerous disease in this case, and the little amount of pain and functional disturbance attendant on its progress.

Mr. Tomes exhibited

Two Teeth with their fangs interlocked and the crowns directed in opposite directions.

The larger tooth (Fig. A), a second permanent molar from the right side of the upper jaw, presented nothing peculiar in form, and occupied the usual position in the mouth. The patient from whom it was taken suffered from toothache, evidence of which is found in the specimen.

The lesser tooth, a wisdom-tooth or third molar from the right side of the upper jaw, is of the usual form, but is remarkable for the situation it holds. Its position is peculiar in two respects: it is placed immediately above, instead of beyond, and in a line with the second molar tooth; and its position is inverted, the crown being directed towards the floor of the antrum.

Fig. 1.

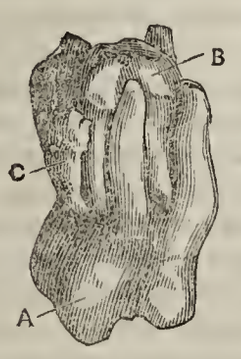

Fig. 1.—A, The second permanent molar from the right side of the upper jaw; B, The wisdom-tooth; C, A portion of the alveolus from the tuberosity of the upper jaw.

Mr. Tomes observed that malposition of the dens sapientia in a trifling degree is extremely common, but this specimen illustrates the extreme of malposition. He has had occasion to remove wisdom-teeth that have had the masticating surface directed forwards against the posterior surface of the second molar, or backwards towards the throat, or towards the cheek or tongue. He said that he had seen a specimen in which the fangs of the wisdom-tooth united to, or entangled with, those of the next tooth, but never before saw this tooth completely inverted and placed over the second molar, the two teeth being at the same time natural in form. In this respect he believed the specimen is unique.

A year or so since, Mr. Tomes had an opportunity of examining a case in which the second molar of the lower jaw was malformed, and the dental tissues assumed the figure of a flattened oval mass three or four times the size of a molar tooth, and under this was confined the wisdom-tooth, the crown of which was normal in size and shape, but the fangs had not been developed. Mr. Tomes remarked, that, previous to the publication of Mr. Goodsir's excellent paper "On the Origin and Development of the Pulps and Sacs of the Human Teeth," in the *Edinburgh Medical and Surgical Journal* for January 1839, we should have had great difficulty in accounting for the peculiar relative position of the teeth in the specimen before the Society. But now, when we consider that, as the papilla is forming in the sac of the second molar, a portion of that sac being between the papilla and the surface of the gum is cut off so as to form a second sac, placed immediately below the surface of the gum, that this small sac gradually travels backwards and upwards, gets behind the sac of the second molar, and proceeds onwards till it is deeply imbedded in the tuberosity of the upper jaw; that it then remains at a much higher level than the sac of the second molar, until its fundus gives origin to the papilla for the origin of the wisdom-tooth; that, with the growth at the back part of the jaw, space is gradually afforded for the sac and papilla to retrace their curved course, and descend into and form the last element of the dental line;—when we consider these evolutions, and what would be the effect of an interruption at any part of their course, our difficulties vanish. In many cases, however, though some space is afforded, yet not enough for the tooth to take its normal position: hence it is developed with the crown presenting backwards in the upper, or forwards in the lower jaw, or to the one side or the other. In the instance before the Society, *no* room was afforded: the second molar appears to occupy the place that should have been tenanted by the wisdom-tooth: hence the dental sac could not descend, and the tooth was developed in this apparently strange position.

Then, again, if there be sufficient space for the descent of the sac, its progress may be arrested by an accidental condition of the parts: such as inflammation or induration of the gum, or, as occurred in the second case he mentioned, abnormal development of the

neighbouring tooth. It is probable, also, that the dental papillæ may sometimes be developed a little to the one or the other side of the fundus of the sac, and hence the future tooth would take an irregular direction. Mr. Hunter, in his Natural History of the Human Teeth, figures a case in which the cuspidatus was inverted in position. Mr. Tomes thought this irregularity was accounted for by supposing the dental papillæ to have been developed from that part of the sac opposite to its fundus. He believed that since Hunter's time some few cases of inverted teeth had been found in connection with diseases of the upper jaw after that part had been removed.

Mr. Tomes said that he was indebted to Mr. Kiernan for the interesting specimen before the society. It was obtained from a baker, who stated that he was seized with toothache, consequent on caries in the second molar; that he applied to a dentist to have the offending member removed, and that the operation brought to light this unsuspected peculiarity, that he had had no pain in the jaw previous to the toothache. The corresponding second molar of the upper jaw had been since removed, but presented no corresponding peculiarity.

Deformity of the lower jaw from a Burn.

Mr. Shaw exhibited a drawing and cast taken from a female, æt. 21, who had deformity of the lower jaw, consequent on the contraction of the skin of the neck, from a burn when five years of age. The front and part of each side of the neck from the jaw to below the sternum, were occupied by a broad cicatrix, which had the effect of drawing the chin towards the breast, and of pulling down and everting the lower lip, so as to separate it two inches and a half from the upper. But the most remarkable circumstance in the case was the deformity that had been produced in the lower jaw. When the jaws were closed, the molar teeth alone came in contact; all those in the anterior part of the lower jaw projecting before those of the upper, and being at the same time depressed. The increase in the length of the anterior part of the lower jaw, so far as could be ascertained by tracing the line of the base through the tense bands of cicatrix, had taken place to a greater extent in the alveolar processes than in the body of the bone: hence the arch formed by the gums was much enlarged, and the teeth were placed at greater distances from each other than usual; and owing to the curving of the processes downwards, the crowns were inclined forwards, those of the central incisors being horizontal, and having their edges pointing directly forwards. When she closed her jaws to the utmost of her power, the edges of the central incisors of the two jaws were an inch apart; and the tip of the tongue protruded through the space between them. All her teeth, including those of the deformed part of the lower jaw, were sound and well formed;* and the posterior part of the jaw was of a natural figure. Besides the deformity, the patient did not complain of much inconvenience: she could both eat and drink with tolerable ease; she could retain the saliva; and although her speech was affected, the articulation was sufficiently distinct. Mr. Shaw did not think an operation advisable, chiefly on account of the projection of the lower jaw and teeth being a barrier that would prevent the lips from meeting, even if the contraction of the skin of the neck could be relieved, which, owing to the extent of the cicatrix, and the acquired stoop of the head forwards, was a matter of great doubt. He remarked that the specimen afforded an interesting illustration of the mode in which the direction of the growth of an osseous structure may be affected by a force acting incessantly, although it may not be powerfully; for he considered that the elongation and depression of the front part of the lower jaw, while the posterior part preserved its natural shape, was the effect of the contraction of the cicatrix opposing itself to the instinctive efforts of the patient to elevate the head, and that the posterior part was prevented from yielding to that force by the resisting action of the temporal and masseter muscles. It added, he further said, to the interest of the specimen, that the increased growth had taken

* From copying the cast too faithfully, the artist has made it appear as if there were an eversion of the cutting edges of some of the teeth of the lower jaw: the appearance is due to an imperfection in the wax mould, produced in detaching it from the teeth, and which it is difficult to obviate.

place in that part of the jaw which, it has been shown by Hunter, undergoes the least change of size in the process of development, the greatest amount of additional growth occurring posterior to the bicuspid teeth. It had also to be remembered that as the patient was five years of age when she was burnt, the progress of the deformity was probably greatest when the deciduous teeth were being shed, and the permanent were rising through the gums.

Mr. Dixon exhibited a

Case of malignant warty ulcer on the hand.

George Woollard, æt. 65, formerly a sailor, was admitted into St. Thomas's Hospital, Oct. 30, 1849.

When two years old he was burnt on the left hand and on other parts of the body. A scar remained, extending across the back of the hand, just above the knuckles. At the age of thirty he injured his left thumb so severely that it was necessary to remove both phalanges. Being thus disqualified for the occupation of a sailor, which he had followed since boyhood, he settled at Sheerness, where he obtained employment in the harbour.

With the exception of one or two attacks of ague, his general health was always good, and he had never suffered from any of the severer tropical diseases, although exposed a good deal to warm climates. His appearance is now robust, and he looks many years younger than he really is. He has always lived well, taking meat and beer twice a day, but has very rarely drunk spirits since he left the sea, thirty-five years ago.

About ten years since he was troubled with frequent itching in the scar on the back of the hand, unaccompanied by any redness or swelling of the part. After some time a pimple appeared, which he used frequently to scratch till it bled, thinking, as he says, "that the bleeding would do it good." This pimple, when it had been scratched into an open sore, continued to enlarge, but very slowly, so that in the course of a year it had not attained the size of a sixpence. He had some surgical treatment, but finding it of no avail, he began to use various escharotics, and tried in turn every application he could think of—nitrate of silver, quick lime, all sorts of herbs and weeds; then poultices, "Holloway's ointment," cowdung, &c.

The sore continued to spread very slowly, till the beginning of this summer, when it rapidly increased, and involved the first phalanges of the middle, ring, and little fingers. When the patient came to the hospital the disease extended from a little below the wrist-joint to the distal ends of the phalanges above mentioned, and from the inner border of the fifth metacarpal bone to the inner border of the second, not encroaching on the palmar aspect of the hand, except at the bases of the little and ring fingers.

Towards the carpus the edge of the sore was raised, everted, red, and granular, while on the fingers it was undermined, sloughy, and ragged. The secretion from the surface was abundant, and extremely fœtid. The patient was unable to move the fingers, which were permanently extended. His general health seemed unimpaired, except that the pain of the sore sometimes disturbed his rest; and his appetite, which had formerly been very good, had fallen off a little within the last few weeks. There was not the slightest glandular enlargement at the bend of the elbow or in the arm-pit.

Amputation through the middle of the fore-arm was performed on the 3rd of November. Different parts of the morbid growth, examined under the microscope, presented the same appearance—namely, a mass of cells and scales, such as are seen in follicular tumors. No compound cells were noticed.

Mr. Toynbee exhibited a specimen of

Large tumor attached to the occipital bone.

The preparation was removed after death from a young woman, æt. 19 years, who died from exhaustion. The tumor occupied the posterior and lateral parts of the neck, and extended upwards nearly as high as the vertex of the skull, and downwards to a level with the last cervical vertebra; it was about half the size of the head, of a dark plumb colour, lobulated and ulcerated in several parts. The secretion given off from its surface was sometimes watery and very offensive; at other times a considerable quantity of blood was poured out. The tumor first appeared three years since, and was twice removed at St. George's Hospital; once by Mr. Keate, and a second time by Mr. Johnson. The exterior of the tumor was soft and doughy, but nearer to the point of attachment to the base it was hard and firm; in some parts having the appearance of cartilage, in others of fibro-cartilage. To the naked eye a section of the deep-seated portion of the tumor had much the aspect of a cancerous growth, while towards the surface it was more soft, and analogous in consistence to the substance of the kidney. The tumor was attached to the left side of the occipital bone, the surface of which, for the space of between two and three square inches, is rough, and presents several projections which were imbedded in the substance of the tumor. Fine spiculæ of bone were here and there observed, which were prolonged into the tumor. At the centre of the rough base was a portion as large as a shilling, black, and quite dead; from this surface during the second operation a layer of bone had been removed, which was followed by serious bleeding. Upon

making a section of the bone the necrosed portion was found to be not much thicker than a sixpence, and it was partially disconnected from the lining surface beneath it. The diploe were quite healthy. The left *fossa cerebelli* was somewhat diminished in size by the thickening of the bone, and the dura mater was hypertrophied and adherent to it much more firmly than natural. The left hemisphere of the cerebellum was somewhat softened. Upon placing very fine sections of the tumor under a magnifying power of 500 diameters, a fine fibro-cellular structure was observed, but no cells could be detected. After maceration for a few days in weak spirit and water, the surface of a section of the tumor was scraped with a scalpel, and a slightly opaque fluid was removed, which, under the same magnifying power, was found to contain some elongated caudate cells, so very fine as to be filamentary, and having the aspect of fibrous tissue.

WESTMINSTER MEDICAL SOCIETY.

Saturday, October 27, 1849.

Mr. Hird, President.

Disease of the Knee-Joint.

Mr. Henry Smith exhibited a specimen of a diseased knee, which he had removed by amputating the thigh of a young man, aged 18. The patient had had a considerable enlargement of the bone for six years. It was seated over the inner side of the joint; it had latterly increased so much in size as materially to affect the motions of the joint. It was considered to be an exostosis. No symptoms of disease within the joint itself appeared, until three months previously, when an injury was received. The joint became inflamed; and notwithstanding the employment of leeches, rest, and counter-irritation, the disease went on. It soon became evident that the joint was seriously affected. As the patient was suffering very much, was completely crippled, and likely to remain so, from the existence of the bony growth alone, Mr. Smith, at his urgent request, and with Mr. Fergusson's approval, removed the limb. The disease consisted of a great enlargement of the inner condyle of the femur, which was so soft as easily to allow the knife to penetrate its substance. There was pus in the joint; the cartilage was removed from the outer condyle of the femur, and it was in process of separation from the whole of the rest of the articulating surface. He had performed the operation, close above the knee-joint, by making a short flap in front, and cutting a long one behind from the muscles of the calf of the leg, as practised by Mr. Fergusson.

In reply to some observations on the case, Mr. Smith stated that it was a rule in operative surgery to take away as little of the healthy parts as possible. By making a flap from the calf of the leg, a greater extent of the thigh would be saved. Another benefit of this mode of operating is, that the cicatrix of the stump could be brought well forward by careful attention to dressing. The great number of vessels divided was certainly an objection which could not be overlooked. In this instance alone fifteen arteries required ligature.

On the Use of Chloroform in Midwifery.

Dr. Murphy said, he had carefully used chloroform in many cases, in the hope of determining its value as an anodyne, and its immunity from mischief to the patient. Three questions presented themselves for consideration—viz., 1. Whether chloroform interferes with the action of the uterus? 2. Whether the safety of the child is hazarded by its administration? 3. Whether any ill effects subsequently manifest themselves by which the safety of the patient is compromised? The cases selected for the use of chloroform were—1, operation cases, in which the diminution of the intense pain attendant upon them is of importance, and the anæsthetic is employed for a short time only; 2, natural cases, in which he had at first restricted its use to cases of intense suffering, but latterly also to relieve pain in natural cases. The operative cases were thirteen in number, ten being forceps cases, including one, the formation of a new os uteri, two cases of arm-presentation, with unusual difficulties, and one case of perforation in a pelvis having a conjugate diameter of only two inches and a half. The cases of natural labour were eight in number. The details of these cases are published in the *Edinburgh Monthly Journal* for November. In the operations, the patients were rendered both insensible and unconscious: and although, in some cases, they uttered sounds as if suffering pain, they said afterwards that they had felt none. In one patient, greatly debilitated by privations, it being necessary to turn the child, the uterus contracted firmly. In the other case of arm-presentation, the patient was rendered so deeply unconscious that the voluntary muscles were relaxed, yet the uterus contracted with very considerable violence. In the natural cases, chloroform was never given to the extent of causing unconsciousness, and was reserved till the second stage of labour. It invariably diminished the intensity of the pains, without altogether removing them, the patient feeling the pains, and bearing down with them, yet perfectly conscious of the relief she experienced. In one case, no relief from pain appeared to result; but the con-

tractions of the uterus were retarded. In every instance the mothers recovered most favourably. Three of the children died—one from perforation, one putrid, and one from extreme difficulty in turning. He did not discuss the question whether anæsthesia should be employed in midwifery at all; but his observations were directed to solve the questions which concern the value of chloroform as an anæsthetic, and the dangers which may arise from its use. The results are briefly as follow. The uterus was not paralyzed in a single case. In one case the period between the pains was lengthened, but the action of the uterus was more efficient; in another case the labour appeared to be retarded, and the uterine contractions came on more quickly and forcibly when the chloroform was omitted; but in all the cases its contractile power was by no means lessened. The 78 cases recorded by Dr. Channing proved the same. Dr. Denham, of Dublin, had found the cases protracted by chloroform; yet all progressed rapidly directly the anæsthetic was omitted. Therefore, Dr. Murphy argued that no paralysis resulted from the anæsthesia. Hæmorrhage is the result of atony, or non-contraction of the uterus; yet in 600 anæsthetic cases recorded, no such accident had occurred; the child was born alive in all. Of 541 natural births, and in 79 operations, twenty died from the performance of craniotomy, and eight only from other causes—a mortality of only one in seven operative cases. In no instance had subsequent ill effects to the mother followed the use of anæsthesia. He combated the statement that ladies had died from its use, and attributed the deaths from convulsions, &c., in which chloroform had been used, not to the anæsthetic, but to other natural causes. All the deaths really caused by chloroform have occurred suddenly, and during the narcotism. The author then referred to the researches of the American Medical Association, which reported that anæsthesia had been used in 2,000 cases of midwifery without the occurrence of a single fatal case, and very few untoward results. All medicines will occasionally produce evil results; and he considered the ill effects of anæsthetics merely to come under this category. The author, lastly, combated the assertion that lascivious dreams accompany the inhalation of anæsthetics; he had never observed any such appearances, nor had other practitioners. Having expressed his belief that the intense sufferings of parturition are not physiological or normal, but pathological and abnormal, he considered the diminution of this pain to be not only justifiable, but proper, and calculated to enable the constitution to recover itself much more rapidly than it otherwise would.

Dr. Tyler Smith wished to draw attention to one important point discussed in the paper before the Society—namely, the influence of chloroform upon the physiological contractions of the uterus. He thought general experience was opposed to the conclusion of Dr. Murphy, that chloroform did not diminish uterine action. This appeared evident, from the description of the condition of lying-in women under anæsthesia; and he would relate some experiments he had performed, which illustrated the precise manner in which chloroform influenced uterine action. On rendering a guinea-pig insensible by the use of chloroform, the first things observed were quickened respiratory movements, and convulsive actions of the limbs. The limbs were also forcibly retracted by reflex action, when pinched or irritated, notwithstanding the insensibility. Everything showed that the first effect of chloroform was to exalt the function of the spinal marrow. But after a short time, the respiratory movements became languid, and the only parts which moved were the nostrils, larynx, and diaphragm, at considerable intervals. The sphincters of the rectum and bladder were relaxed. The animal was now perfectly quiet under external irritation, no reflex movements being excited. The abdomen was now laid open; the heart might be seen to beat; the peristaltic action of the intestines was excited by the stimulus of the air, or by the point of a needle; and the peristaltic contraction of the uterus was readily produced by irritation. These facts demonstrated that the organs, partly or wholly, under the influence of the ganglionic system, including the uterus, continued active after the reduction of the spinal function to a low point. Another experiment showed that chloroform had the power of destroying the functions of the spinal marrow even more rapidly than hydrocyanic acid. The animal being poisoned by chloroform, a stilet was passed into the vertebral canal, and the spinal marrow destroyed. At the destruction of the spinal marrow, no movements whatever of the limbs occurred. Under ordinary circumstances such a laceration of the spinal marrow would excite the most powerful contractions of the extremities. It was remarkable that, after this, a motor nerve being irritated, energetic muscular contraction was excited, so that the power in the nerves remained. Still, at the time when the functions of the spinal marrow, both reflex and direct, were thus destroyed, the uterus contracted under stimulus, after the occurrence of spinal death. These facts proved that the spinal marrow was affected by chloroform in the manner he had described. But lest it should be supposed that the spinal functions ceased, not in con-

sequence of chloroform, but from death itself, or the approach of death, he had repeated the experiment on the frog, in which it was well known that the reflex actions continued energetic for a considerable time after death. The frog being destroyed by chloroform, the reflex actions entirely and immediately ceased, the limbs remaining perfectly quiet under stimulation. The head of the animal being removed, a needle was passed down the spinal canal, and no movements occurred; but when the needle reached the lower part of the spine, the limbs contracted from irritation of the origin of the nerves. In a very short time, however, the power of the nerves ceased, even under the stimulus of galvanism; and the direct galvanic irritation of the muscles themselves caused very slight muscular contractions to take place. To apply these experimental facts to the condition of the parturient woman under chloroform. The first effect of chloroform upon the uterine action appeared to be stimulant; afterwards, the spinal functions diminished in activity, and the uterus was left in great measure to be emptied by the peristaltic action of the organ. Another point worthy of observation—namely, the occurrence of relaxation in the sphincteric orifices, the vagina, and the muscles of the floor of the pelvis, under chloroform. This relaxation was explained by the withdrawal of the influence of the spinal marrow. A power of contraction was taken away, but this was accompanied by dilatation of the resisting parts; so that, notwithstanding the deficiency of spinal contractile power, delivery was effected by the peristaltic action of the uterus. It was well known that delivery took place in the same way in certain cases of paraplegia, and even after death; but these facts by no means proved that the reflex function was not of the greatest importance in natural parturition. It appeared, then, that in deep anæsthesia the reflex actions of labour were weakened in power, but that this was accompanied by dilatation or relaxation of the parturient canal; the peristaltic action of the uterus remaining little, if at all, affected. These data were of importance towards arriving at a conclusion respecting the value of chloroform in natural labour, and those accidents, as hæmorrhage or laceration, which depended upon increased or diminished motor power.

Dr. Snow said, that as the guinea-pig must have been almost dead at the time of Dr. Tyler Smith's observation of its uterus, he doubted whether the result of the experiment could be applied to what occurred in practice. He agreed with Dr. Murphy, that chloroform, when judiciously administered, did not interfere injuriously with the contraction of the uterus. But so far as he had been able to observe, a full dose always had the effect of suspending the uterine action for the moment; and that, consequently, when relaxation of the uterus was required, in order to facilitate turning the child, it could always be produced by inducing a full state of narcotism, and continuing it till the operation was effected. He (Dr. Snow) had lately given chloroform in a case of arm-presentation under the care of Mr. French; and the passive state of the uterus allowed that gentleman to turn the child with the greatest ease, although the liquor amnii had been some time discharged. In this case, the inhalation being discontinued, the uterus contracted almost immediately, and expelled the placenta into the vagina. In the case related by Dr. Murphy, where there was strong uterine action during the operation, he (Dr. Snow) believed that the narcotism had been only apparent, and had certainly not extended to the fourth degree. With respect to the alleged immoral effects of chloroform in midwifery, he, like Dr. Murphy, had seen nothing of the kind. A great portion of the patients who underwent surgical operations had no hesitation in relating everything they experienced; but amorous dreams were so excessively rare under chloroform, in comparison with what occurred in natural sleep, that it was evident the inhalation exerted a powerful effect of the opposite kind to the one alleged. He had no doubt that, if trial were made, chloroform would be a more efficient agent for the prevention of chordee, than belladonna, camphor, or any other medicine.

Correspondence.

THE CHOLERA FUNGI AND UREDO.

Sir,—In the Medical Gazette of Oct. 19th, a short notice appeared of a communication from Mr. Busk, to the Microscopical Society, respecting the "Supposed Cholera Fungi," which was followed last week by a letter from him on the same subject. As particular reference was made in both of these to a specimen furnished by me, I feel called upon to reply, and to state my reasons for differing from him as to the nature of those bodies, although it is with much diffidence that I put forward any opinions of mine in opposition to those of so high an authority.

In his communication to the Microscopical Society, Mr. Busk refers the bodies found by Mr. Brittan and myself in cholera evacuations, to three distinct classes. In the first of these he places the more definite bodies which are but rarely met with; and he

brings forward as a type of them a specimen which was given by me to Dr. Lankester. The cells contained in this specimen were considered by me (who am alone answerable for that theory) to be *perfect* specimens of the cholera cell. Mr. Busk, however, states that they are nothing more than a species of uredo, or "smut," derived most probably from bread which the patient had eaten. In support of this idea he exhibited to the Microscopical Society portions of brown bread which he had obtained at Greenwich, and which contained spores of the uredo; and although he did not assert the identity of these with the bodies contained in my specimen of cholera evacuation, he yet considered them so similar as in all probability to belong to the same genus, if not to the same species.

Mr. Busk has since kindly forwarded to me specimens of the same bread, which I have consequently had an opportunity of carefully examining. I find that they contain an uredo identical with a species from wheat (the uredo caries), of which I had previously obtained specimens, with the exception that they are slightly altered in colour, perhaps from the processes which the bread had undergone.

I found upon examination many points of difference between the uredo and the bodies contained in cholera evacuations, which I denominated perfect cells; but I looked in vain for any striking points of resemblance. The chief points of difference are the following:—

1. The cholera cell (as may be proved by accurate measurement) is on an average more than twelve times as large as the uredo.

2. The uredo is mostly uniform, both in size and development, and perfectly circular. On the contrary, the cholera cells vary very much in size, are oval in shape (when mature), and are met with in every stage of development.

3. The cholera cell contains a ball of granular matter, somewhat resembling a yelk-ball, or vitellus, which does not completely fill its interior. Nothing of the kind, however, can be discovered in the uredo.

4. The uredo is regularly studded upon its surface with sharp points. The walls of the cholera cell, however, which are proportionably much thicker than those of the uredo, are covered externally in a somewhat irregular manner with blunt protuberances, or buds, resembling bullæ. In some specimens these buds may be observed to be pediculated, and in others completely detached. This was so well seen in some which I showed to Dr. Carpenter, that he considered them to present undoubted evidence of propagating by gemmation.

5. Strong nitric acid slowly dissolves the cholera cell, first turning it a bright yellow colour, then resolving its granular contents into three or four oily-looking globules, and finally reducing its walls to an extremely thin pellicle. With the exception of rendering it rather paler, it has no action on the uredo.

The following are the chief points of resemblance between the two bodies:—

1. The colour of the uredo is similar to that of the cholera cell.

2. They are both unaffected by Liq. Potassæ.

3. The surface of the outer coat in both presents a fenestrated or rather reticulate appearance. This appearance Mr. Busk lays great stress upon, as showing the relationship of the two bodies; and he considers that the circular spot on the cholera cell, like those on the uredo, are due to a number of holes in its parietes. To prove this point I crushed one of the cholera cells perfectly flat, and then examined it under a 1-12th inch magnifier. I was unable to detect the least appearance of openings; on the contrary, the surface of the cell was covered all over with protuberances.

Such are the differences between these bodies and the uredo which Mr. Busk obtained from bread, and they are so great that he does not for a moment maintain that they are the same species of uredo. But can they be any other? The uredo caries is as large or larger than any other which affects the grain of wheat: it is clear, therefore, that the cholera cells, unless they are a species hitherto unknown, cannot come from that source. But could they be another kind of uredo peculiar to some other vegetable? With a view to settle this point, I looked through some elaborate papers, by M. Tulasne (in the Annales des Sciences Naturelles, for 1847), which contain a full account of every kind of uredo, and I found nothing answering to the description of the cholera cell. I have also been assured by a medical friend (Mr. H. O. Stephens, of Bristol), who has paid great attention to this subject, that he knows of no kind of uredo like it, and that he does not for a moment consider it to be such.

The second class of bodies from cholera evacuation, consisting of large imperfect, and in some respects indefinite, cells which have been figured by Mr. Brittan, Dr. Budd, and myself, and which have been termed "annular bodies," I have hitherto been led to consider as imperfect specimens of the class first mentioned. Mr. Busk, however, is of opinion that they are nothing more than portions of the cells from the inner coating of bran, or else altered starch grains. To prove this he prepared some specimens from the bran contained in coarse

samples of bread, and compared them with our drawings of the bodies in question.

I have had an opportunity of inspecting some specimens which Mr. Busk kindly sent me, and of comparing them with the cholera bodies themselves, and I find that they differ in many respects, viz.—

1. The contents of bran-cells are tolerably uniform in size, and have a tendency to a quadrilateral or polygonal shape. The cholera bodies, however, are more or less circular or ovoid, and very variable in size, some being many times larger, others smaller, than these.

2. The cholera bodies present an unmistakeable appearance of being surrounded by a thick wall: this causes them to look annular. Nothing like this can be seen in the contents of the bran-cell.

3. A regular gradation can be traced up from the smallest to the largest cholera bodies. This was noticed by Mr. Quekett in the specimens shown him by Mr. Brittan, and he at once inferred that they were the same bodies in different stages of development. No such gradation can be traced in the contents of bran-cells.

I may mention that both Mr. Brittan and myself have invariably recognised bran-cells and their contents in our examinations, having figured them as such in our drawings, and placed them under the head of "vegetable cells" in our reports. Altered grains of starch have likewise been recognised as such in our reports.

The third class of bodies mentioned by Mr. Busk includes the smaller cholera-cells which average the size of blood-discs, and are very distinctly annular in appearance. These he states without hesitation to be altered blood-discs; but a comparison of the two, such as was afforded me by one of my cases (No. 6) will serve to show the difference. In this case the evacuation chiefly consisted of altered blood. A few large and small cholera-cells, however, were present, and the latter were very clearly distinguishable from the altered blood-discs around them. The following were the principal points of difference:—

1. Instead of being tolerably uniform in size, some of the "annular bodies" were much smaller, and others much larger, than the blood-discs.

2. The so-called "annular bodies" have a much sharper and more regular outline than altered blood-discs, which are usually crenate. In the "annular" bodies the inner circle is as distinct as the outer, but usually more irregular. In the blood-disc there is no distinct appearance of an inner circle.

3. By causing them to roll over and over, the annular bodies may be seen to be in reality globular. Blood-discs, unless much altered, partly retain their flattened discoid character.

I may mention also that in one case (No. 29) I met with these bodies in such immense numbers in the flocculent deposit, that, had they been blood-discs, it ought to have been tinged red by their presence. This, however, was not the case, for it was of a pale yellowish white.

Mr. Busk passes by in silence the bodies found in the air and water of cholera districts. I need not, therefore, reply upon these heads. There is, however, one circumstance upon which I must make a few remarks, viz. the inference which Mr. Busk appears to draw of our having fallen into what he considers a number of errors, in consequence of using high powers with a bad illumination. I think I can easily show that he has no just grounds for assuming such an ignorance, on our part, of the proper use of the microscope. When I state that Mr. Brittan, Dr. Budd, and myself, all belong to a Microscopical Society, of which Dr. Budd and myself have been active members more than six years,—a Society, moreover, as large as any in the provinces, and which has numbered amongst its members such men as Dr. Carpenter and Mr. G. H. K. Thwaites,—and when I state also that the objects we have been investigating have been examined by us with every magnifying power from an inch upwards, and with every kind of illumination, as well as with the achromatic condenser and polariscope,—I think I have said enough to show the impossibility of our falling into such a source of fallacy; not to mention the extreme improbability of our continuing in it after having examined between us upwards of seventy different specimens.—I am, sir,

Your obedient servant,

Joseph Griffiths Swayne, M.D.
Lecturer on Midwifery at the Bristol Medical School.

Clifton, Oct. 27th.

THE CHOLERA AT SWANSEA. LETTER FROM DR. T. WILLIAMS.

Sir,—I thank very much Mr. Michael, surgeon, of this town, who in your last number draws the attention of your readers to an inaccuracy contained in my communications "On Cholera Discharges," published in preceding numbers of the Medical Gazette. In two or three days after the publication of my papers I became perfectly well acquainted with the error of date to which he has referred,—an error, however, which I did not apply myself to correct, from an impression of the utter unimportance of the point involved, desiring infinitely less to establish in my own favour the merit of priority, than to communicate a few facts

independently observed. The first case by which the recently past visitation of cholera was heralded into this town, did occur, as Mr. Michael has stated, in Oct. 1848. But I repeat that that was the case, from microscopic observations instituted on the discharges, in which I made the sketches since published, and the accuracy of which all subsequent examinations have corroborated; that was the occasion on which I explained in my own study to my friend Mr. Rowland, the appearances from which the sketches were faithfully drawn.

If, sir, I had designedly fabricated the date of my case in order to promote my own claims to the honour of a supposed discovery, cannot Mr. Michael perceive that I should have given proof of very inferior aptitude for the sinister art, if by deliberate choice I had used the later in preference to the earlier and true date. Little did he know, that, in proving on my part a mistake in date, he was proving me an honest man; for he has rendered it evident that even against my own interest I have adhered to the literal truth as registered in my note-book.

Your obedient servant,
THOMAS WILLIAMS, M.D.,
London.

Swansea, Nov. 4, 1849.

*** The concluding portion of this letter has been omitted, as it touches rather too closely on the law of libel. With regard to the use of Mr. Rowland's name, if that gentleman feels aggrieved by it, we shall be happy to insert any communication from him on the subject. It is quite evident that the mistake in date on the part of Dr. T. Williams was unintentional.

ON PURE COD-LIVER OIL AND ITS USES IN MEDICINE.

SIR,—Your readers may probably take interest in the accompanying report of an analysis of Messrs. Langton, Brothers, and Scott's, new Oleum Aselli, by Professors Aikin and Taylor of Guy's Hospital. The growing reputation of this remedy, indeed, as proved by various communications in your journal, renders any improvement in its manufacture a real boon to the profession.

Hitherto, its extremely nauseous taste and smell, when pure and not made palatable by adulteration, has deterred many patients from taking it,—many stomachs, in fact, from retaining it when taken.

The Messrs. Langton, Brothers, and Scott, of Upper Thames Street, have employed a first-rate extractor of the oil at Newfoundland to prepare it at once from the fresh cod; and the result is that we have now for the first time an article which, though equally abundant with the nauseous oils in all those elements to which a remedial power can be ascribed, is so far superior to them in taste, odour, and limpidity, that it may be taken without the slightest feeling of disgust even by those to whom the mere smell of the ordinary kinds is intolerable.—I have the honour to be, sir,

Your most obedient servant,
F. A. B. BONNEY, Surgeon.

Knightsbridge, Nov. 1849.

(Copy.)

We hereby certify that we have examined a specimen of cod-liver oil transmitted to us for this purpose by Messrs. Langton, Brothers, and Scott.

The oil is of a pale yellow colour, with a slight but not offensive fishy odour, and is free from any disagreeable taste. It is very fluid, and in consistency and general appearance resembles good Florence oil. Its specific gravity at 61° Fah. is 0·924. At the temperature of 14° Fah., the stearine is deposited, and the liquid oleine, when poured off the stearine, becomes gelatinous at 10° Fah. It contains no *free acid*, and is perfectly neutral to reagents. In ether it is wholly soluble, not leaving behind any deposit or sediment. Alcohol of 0·815 dissolves it in small quantity. This alcoholic solution is quite colourless, and does not produce any blue colour on starched paper immersed in it; thus proving that no iodine had been added to the oil.

Sulphuric acid produces in the oil a rich violet pink colour, indicating the presence of cholic acid, and therefore of biliary matter. A portion of the oil was saponified by a solution of pure soda, and the soap thus prepared was charred in a close vessel. This residue, when boiled in water, gave a colourless solution, which was found by appropriate tests to contain *iodine*. The quantity of iodine per cent., according to the nearest calculation which could be made, amounted to ·027, or one three thousand six hundred and thirtieth part by weight. This corresponds to the proportion assigned by other analysts.

From these and other results, we believe that the sample sent to us is a *genuine* and *unsophisticated* specimen of *cod-liver oil*. We are likewise of opinion, from its purity and the absence of any unpleasant odour or flavour, that it is preferable for medicinal use to those samples of cod-liver oil which have hitherto come under our notice.

(Signed) ARTHUR AIKIN,
ALFRED SWAINE TAYLOR, M.D., F.R.S.
Professors of Chemistry in Guy's Hospital.

Chemical Laboratory,
Guy's Hospital, Sept. 25, 1849.

THEORIES OF THE ORIGIN AND DIFFUSION OF CHOLERA—THEIR INADEQUACY TO ACCOUNT FOR ITS PHENOMENA.

Sir,—On observing the numerous theories propounded concerning cholera and the remedies recommended for it, I have been forcibly struck with the close analogy between the mode of investigation pursued with reference to that malady, and its forerunner the potato disease. No sooner had the potato blight become pretty general than some theorists asserted that electrical disturbance was the cause of it; this the public believed pretty generally (being easily taken with theories, especially if unintelligible), until some more sober and cautious investigators exhibited plainly that no proof existed of its truth. This theory, then, being found untenable, another, the fungoid, was advanced; and notwithstanding the investigations of Commissioners (and able ones too) specially set apart to investigate the matter, the public were at last, scientific and unscientific, obliged to admit that neither theories nor Commissioners explained anything, or suggested any remedy of the slightest importance: so with cholera, that pestilence which in a very brief period has consigned to their last resting-place, and hurriedly too, so many of our population, both rich and poor, old and young, electrical disturbance was vaunted forth as its cause, and remedies were recommended for its removal and prevention, in the public journals, with no less confidence and pretensions than was the immortal Catholicon of Paracelsus, nearly three hundred years ago.

This electrical theory has had its day, and upon its ruins, inasmuch as in the potato epidemic, the fungoid has arisen, most likely to attain to no greater importance; as the instrument by which the so-called fungi have been discovered has served alike in the hands of most experienced microscopists to disprove their real existence.

May we not, then, indeed exclaim, how useless human theories are to discover or explain the mysterious ways of the Almighty when He visits his people in judgment! Instead of unprofitably employing those powers of mind and education, for which our profession is remarkable, in vain and idle speculations about electrical or fungoid causes of cholera, over which, even if true, we could exercise no control, we should rather set ourselves diligently and rationally to ascertain and apply suitable remedies for its removal.

Abundant evidence is to be found, in almost every place where the disease has prevailed, of the possibility of its being communicated from one individual to another. This suggests most naturally the necessity and propriety of having the affected kept apart from the healthy. Again, similar evidence is to be had that the number attacked and the malignance of the disease pretty generally correspond with the prevalence of filth, and all depressing causes in any locality; this also conveys an important lesson, showing the necessity of enforcing cleanliness and other hygienic measures; and such circumstances being forcibly impressed upon the minds of the public, would, in my opinion, tend more to the prevention of the disease than the various disquisitions on the electrical and fungoid theories, in which not only medical but lay journals abound.

I am, sir,
Respectfully yours,
Chirurgus.

Lisburn, Nov. 1849.

Medical Intelligence.

ALLEGED DEATH FROM CHLOROFORM AT LEEDS.

In consequence of a statement which appeared in some of the medical periodicals, that a man had died from the administration of chloroform by a medical practitioner at Leeds, the coroner for that borough held an inquest on the body on Wednesday. The deceased, Robert Mitchell, who was an omnibus driver, died on the 25th of October, and had been buried for more than a week, when his body was disinterred and examined by Mr. Samuel Smith, the senior surgeon at the Leeds Infirmary, and Mr. William Price, a surgeon of considerable standing in the town. Mitchell had long been addicted to habits of intemperance, and about a year ago was afflicted with delirium tremens, when he was attended by Mr. Joseph Teale, a surgeon of established repute, under whose care he recovered. Since then he has been a teetotaler, till within about a fortnight of his death, when he again commenced drinking, which brought on another attack of delirium tremens. Mr. Teale was again applied to, when, after treating him in the usual way, with opium and morphia, without success, till he feared to pursue it further, he had recourse to chloroform, which he applied twice. This took place on the same evening on which the man died, about a drachm being poured upon a napkin, four times folded, and applied by degrees to the patient's mouth and nostrils. The deceased, who before had been most violent, gradually became quieter; and Mr. Teale left him much more tranquil than before the administration of the chloroform. The two surgeons who had made the *post-mortem* examination of the body described the mucous

membrane of the trachea and the lungs as discoloured and highly congested, whilst the heart was in a collapsed state, which they thought attributable to the combined effects of delirium tremens and the application of chloroform. Mr. Smith said, he should have administered chloroform under similar circumstances. In fact, it was the recommended, but not established, practice of the faculty. If the ordinary means had failed, Mr. Teale was fully justified in trying chloroform; and such a practice would be approved of by the heads of the profession in this country. Mr. Price agreed in the main with the statement and opinion of Mr. Smith, but said, he should not in delirium tremens use chloroform without consultation; and both the gentlemen agreed that death had really been caused by delirium tremens. Mr. Samuel Key, another surgeon of eminence, stated, that in a case of delirium tremens under his care, he had administered chloroform with the most marked success; and that Mr. Teale, in doing so, was giving the patient the last chance of recovery. The verdict of the jury was, that "Death had been caused by delirium tremens; and that no blame whatever attached to Mr. Teale, who appeared to have adopted the proper and necessary remedies."—*Globe.*

*** We have a full report of the medical evidence at the inquest. We have no room for it in the present number. It shall appear next week.

THE CHOLERA AT THE WAKEFIELD LUNATIC ASYLUM.

Out of little more than 600 inmates in this Asylum, upwards of 100 have died from cholera in a month; and up to this time the mortality will have reached 110 or more. On Monday last there had been 105 deaths; and the disease continues to make sad ravages. The startling and unprecedented fact that, in a great public institution, one-sixth of the inmates have died in one month is appalling, but is not lessened by the ill-advised attempts at suppression and concealment. The *Leeds Mercury* alone has furnished the facts of the progress of the malady, and the poisonous effects of the wretched drainage of the establishment on the public health; but in doing so, it has had obstructions rather than assistance. The public of Wakefield have a right to be anxious on this subject, and have a right to know what amount of poison is daily distributed about its neighbourhood and through its sewers; and when once they have learned the almost incredible details, they have a right by every means within their power to demand the instant abatement of the evils, and the placing of all matters of drainage and other management affecting the inhabitants of the town under the care of a responsible and disinterested party. The sewerage question, so far as it effects East Moor, is in a fair way for being altered; but how? Why, by probably carrying into the heart of the town, somewhere about Wrengate Corner, the same excremental sewerage which is now and has been long rendering the district through which it has hitherto passed poisonous and pestilential. The removal of the Asylum refuse from East Moor to Wrengate Corner is a half measure, unworthy of the managers of a public establishment; and it ought not to be permitted by the authorities of the borough. The drainage of a county asylum, crammed with inmates, suffering at all times more or less from infectious disease, ought not, under any circumstances, to be passed through a town; and in the case of the Asylum, the adoption of such a course is disgraceful.

The dreadful fatality, surpassing far the well-known "Tooting" affair, does not exist without a cause; and no time should have elapsed in ascertaining that cause.

We regret to learn that Mrs. Reynolds, one of the nurses, died on Sunday last. Others have been attacked, but without fatal consequences.

CESSATION OF THE CHOLERA AT LEEDS.

In consequence of the all but entire cessation of the cholera at Leeds, the Sanitary Committee held the last of its regular meetings on Wednesday, the 7th inst., chiefly for the purpose of examining and passing the outstanding accounts. It is satisfactory to learn that the total amount of the expenses incurred by this severe visitation will fall considerably short of the estimates which had been formed; and that, consequently, there will be no necessity for any increase in the amount of the next half-year's poor-rate. We understand that the amount of the disbursements on cholera account to this time, exclusive of coffins and burial fees, and of drugs and some other items not yet ascertained, does not exceed £4,400; so that it is probable the whole expense will not much exceed £5,000. The Committee have directed an analysed statement of the expenditure to be prepared, which we hope to have an early opportunity of laying before the rate-payers.

THE OPINIONS OF THE PRESS ON CHOLERA.

We are induced to transfer the following extract to our pages, as a specimen of cogent reasoning, conveyed in language which sets the ordinary rules of grammar at defiance. The editor, after discussing "the fungus or animalcula origin" of cholera, says:—

"We have often been asked our opinion as to the cause of Cholera, and have expressed

our conviction that it is an atmospheric phenomena (!) in the first instance, as, if it took place by drinking water, as the medical writers in the morning newspapers and the MEDICAL GAZETTE assert, the Teetotalers of Cholera districts ought to be invariably attacked, as they are the *real* water drinkers; but such is not the case, but quite the contrary, if we are to credit the reports of the Registrar General. When our theory that the Cholera is an atmospheric phenomena, (!) arising from sewers, or emanating from putrid substances, has been questioned, and the remark made that if our opinion was correct, how did it happen that Cholera was not known in former times, when the Metropolis and many other places were in a filthier state then they are now kept? Our reply has been that Prussiac-acid, (!) that subtle liquid, so instantaneous in the destruction of human life, was not known to our ancestors, although the substances from which it was made was (!) then in equal profusion as they are now. The fact, in our opinion, is that the march of improvement is the march of destruction, as at present practised. In former days the exhalations from the Fleet Ditch of London, and other nuisances were allowed to mix with the atmospheric air gradually, and consequently less injurious to public health by their comparative homapothetic (!) quantity, but now that the whole of that ditch and many other places are covered over, the foul air generated in them is allowed to escape double distilled through the vents in the streets, and the concentrated Prussiac-acid (!) of the sewers meets the public, and is inhaled at every corner, poisining (!) all who are of weak constitution, or who have any predisposing causes to render them less able to resist its influence."—*Woolwich Gazette.*

*** This "Prussiac-acid" hypothesis must have been derived from the Pimlico sewer case.

PROPOSED NEW CHARTER OF THE ROYAL COLLEGE OF SURGEONS.

AT a late meeting of the Council of the College it was resolved that an application should be forthwith made to Government to grant a new charter, to amend the defects of that issued by the Crown in 1843. It is reported that, by one of its articles, all members of twenty years' standing who are engaged in the practice of surgery will be admitted to the fellowship.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on the 9th inst.:—A. Williams—R. H. Kaye—J. Robinson—J. Howell—H. Nuttall—T. J. Warburton—G. P. Dunn—W. H. Bolton—G. F. Bodington—W. Bratt.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 8th November, 1849:—David Henry Monckton, Brenchley, Kent—Alfred Scotchburn, Duffield, York—Thomas Bolland Powell, Knaresborough—Edward Rutley Ray, Millon, near Sittingbourne—Robert Smith, Mamby c. Chassel, Lincolnshire—Frederick John Dyer.

DEATH OF WILLIAM FFOLLIOTT, ESQ., M.D.

AT his residence, Clonakilty, on the 16th ultimo, in the 59th year of his age, William Ffolliott, Esq., M.D., Fellow of the Royal College of Surgeons in Ireland, and Physician to the Clonakilty Dispensary from its establishment, close on forty years. His professional acquirements were of the highest order, which, along with his private virtues, made him greatly beloved, and ensured for him, through the whole of his life, most probably the largest practice in the West Riding. He was equally esteemed by his friends, his patients, and his brother practitioners. He had a good constitution, was temperate to a proverb, and was of a long-lived family; and for a period of forty years, with the exception of three fevers, was not prevented by illness for even a single day from attending to his profession. But the duties of the last three years of pestilence of a country practitioner were so arduous that his constitution was entirely broken up. His father and two uncles were physicians, and also his grandfather. He has left two sons in the profession; his eldest the surgeon of the Timoleague Dispensary, and his third succeeds him in Clonakilty. He was originally from Youghal, in the neighbourhood of which his family resided for many generations. He was the representative of the ancient Norman baronial family of "Ffolliott of Ireland."—*Dublin Medical Press.*

Selections from Journals.

HOMŒOPATHY. REASONS WHY IT IS NOT DESERVING OF A TRIAL.

THE profession is constantly assailed by the followers of Hahnemann for rejecting his doctrines without subjecting them to trial. Although not true to the extent alleged, we contend that the educated physician is justified in rejecting homœopathy without testing it at the bedside; and this opinion is founded on the fact, that its doctrines are not only contradictory and at variance with

themselves, but self-evident absurdities. If the medical man who seriously sets about their verification does not endanger his reputation for soundness of mind, he, at any rate, compromises his character as a thoroughly-educated physician and a man of well-balanced intellectual faculties. Besides, it is unnecessary, an act of supererogation, to undertake the establishment of statements which can be disproved by their opposition to facts already known, as well as their contradiction of one another. What would be thought of a man who should undertake to demonstrate that the three angles of a triangle are greater than two right angles; or that two and two make five; or that a part is greater than the whole? What must be thought of him who believes that a grain of medicine can be so expanded as to fill a space larger than the solar system, and yet that the bulk of a mustard seed retains sufficient power to affect sensibly the animal organism? Can a man believe an absurdity like this, and not need a dose of hellebore? The distance between the earth and the sun is 95,000,000 of miles; twenty homœopathic globules, laid side by side, extend to about an inch, so that 158,000,000,000 such globules would reach from the earth to the sun. But when the 30th (X) dilution is practised, each grain is divided into 100,000,000,000,000,000,-000,000,000,000,000,000,000,000,000,000,-000,000,000,000 parts, so that a single grain of any substance, in the 30th dilution, would extend between the earth and the sun, 1,262; 626,262; 626,262; 626,262; 626,262; 626,262; 626,262; 626,262 separate times! Can a system of medicine which puts forth such statements as this be worthy of serious investigation? The medical man who is at all accustomed to examine, weigh, and compare facts, is justified, we say, in rejecting, at once, without examination, a system made up of such gross absurdities and fallacies. He is bound to do it in justice to his own understanding. —*New York Journal of Medicine.*

EXTRAORDINARY ACCIDENT FROM POTASSIUM.

Dr. Shipman, of Syracuse, U. S., relates the following singular case in the last number of the Boston Medical and Surgical Journal.

A few months ago I was called in great haste to a young gentleman, who was in a most ludicrous yet painful condition. I found, on examination, a bottle, holding about a pint, with a short neck and small mouth, firmly attached to his body by the penis, which was drawn through the neck and projected into the bottle, being swollen and purple. The bottle, which was a white one, with a ground-glass stopper and perfectly transparent, had an opening of three fourths of an inch in diameter only; and the penis being much swollen rendered its extraction utterly impossible. The patient was greatly frightened, and so urgent for its removal that he would not give me any account of its getting into its present novel situation, but implored me to liberate it instantly, as the pain was intense and the mental anguish and fright intolerable. Seeing no hopes of getting an explanation in his present predicament, and after endeavouring to pull the penis out with my fingers, without success, I seized a large knife lying on the table, and with the back of it I struck a blow on the neck of the bottle, shivering it to atoms and liberating the penis in an instant, much to the delight of the terrified youth. The glans penis was enormously swollen and black, as was the prepuce; both were vesicated, as though scalding water or fire had been applied to them. He complained of smarting and pain in the penis after the bottle was removed; and inflammation, swelling, and discoloration continued for a number of days, but by sacrification and cold applications subsided; yet not without great apprehensions on the part of the patient, and a good degree of real pain in the penis.

The reader is probably anxious to know, by this time, how a penis, belonging to a live man, found its way into so unusual a place as the mouth of a bottle. I was extremely curious myself; but the fright and perturbation of the patient's mind, and his apprehension of losing his penis entirely, either by the burn, swelling, inflammation, or by my cutting it off to get it out of the bottle, all came upon him at once, and overwhelmed him with fear. Now for the explanation. A bottle in which some potassium had been kept in naphtha, and which had been used up in experiments, was standing in his room; and wishing to urinate without leaving his room, he pulled out the glass stopper and applied his penis to its mouth. The first jet of urine was followed by an explosive sound and flash of fire, and quick as thought the penis was drawn into the bottle with a force and tenacity which held it as firmly as if in a vice. The burning of the potassium created a vacuum instantaneously, and the soft yielding tissue of the penis effectually excluding the air, the bottle acted like a huge cupping glass to this novel portion of the system. The small size of the mouth of the bottle compressed the veins, while the arteries continued to pour their blood into the glans, prepuce, &c. From this cause, and the rarefied air in the bottle, the parts swelled and puffed up to an enormous size.

How much potassium was in the bottle at the time is not known, but it is probable

that but a few grains were left, and those broken off from some of the larger globules, and so small as to have escaped the man's observation. I was anxious to test the matter (though not with the same *instruments* which the patient had done), and for that purpose took a few small particles of potassium, mixed with about a tea-spoonful of naphtha, and placed them in a pint bottle. Then I introduced some urine with a dash, while the end of one of my fingers was inserted into the mouth of the bottle, but not so tightly as to completely close it, and the result was a loud explosion like a percussion cap, and the finger was drawn forcibly into the bottle and held there strongly—thus verifying, in some degee, this highly interresting philosophical experiment, which so frightened my friend and patient.

The novelty of this accident is my apology for spending so many words in reporting it, while its ludicrous character will, perhaps, excite a smile; but it was anything but a joke at the time to the poor sufferer, who imagined in his fright that if his penis was not already ruined, breaking the bottle to liberate it would endanger its integrity by the broken spiculæ cutting or lacerating the parts.—*Boston Medical Journal.*

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Monthly Journal of the Medical Sciences for November 1849.

The Physiological and Scientific Treatment of Cholera advocated. By William Parker, M.R.C.S. &c.

On Stricture of the Urethra and Fistula in Perineo. By James Syme, F.R.S.E. Edinburgh.

London Journal of Medicine, No. 11, Nov. 1849.

Journal de Chimie Médicale. Novembre.

Casper's Wochenschreift für die gesammte Heilkunde, Nos. 40, 41, 42. 6th to the 20th of October.

Contributions to the Pathology and Treatment of Eruptive Diseases of the Skin. By J. M. Neligan, M.D. &c. Dublin.

Principles of the Human Mind. By Alfred Smee, F.R.S.

Comptes Rendus, Nos. 16 and 17. 15th and 22d October.

On the Health of London during the Six Months terminating the 29th September.

The New York Journal of Medicine. July 1849.

Medical Report of the Hospital for Consumption. 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·73
,, ,, ,, Thermometer[a] ..... 50·2
Self-registering do.[b] .... Max. 66· Min. 31·7

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·13.— Sum of the daily observations taken at 9 o'clock.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 10.

BIRTHS.		DEATHS.		*Av. of* 5 *Aut.*	
Males....	698	Males....	460	Males....	583
Females..	715	Females..	433	Females..	579
	1413		893		1162

CAUSES OF DEATH.		*Av. of* 5 *Aut.*
ALL CAUSES	893	1162
SPECIFIED CAUSES	888	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	216	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	47	49
3. Brain, Spinal Marrow, Nerves, and Senses	104	125
4. Heart and Bloodvessels	38	40
5. Lungs and organs of Respiration	143	214
6. Stomach, Liver, &c.	41	65
7. Diseases of the Kidneys, &c.	10	11
8. Childbirth, Diseases of Uterus, &c.	9	10
9. Rheumatism, Diseases of Bones, Joints, &c.	9	8
10. Skin	0	1
11. Old Age	42	57
12. Sudden Deaths	7	12
13. Violence, Privation, Cold, &c.	22	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	5	Convulsions	42
Measles	23	Bronchitis	51
Scarlatina	58	Pneumonia	76
Hooping-cough	19	Phthisis	107
Diarrhœa	25	Lungs	6
Cholera	6	Teething	6
Typhus	46	Stomach	5
Dropsy	19	Liver	8
Hydrocephalus	23	Childbirth	4
Apoplexy	18	Uterus	5
Paralysis	11		

REMARKS.—The total number of deaths was 269 *below* the weekly autumnal average.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

Dr. Trayer.—The alteration shall be made.

Communications have been received from Mr. Swan, Dr. Cumming (Edinburgh), Dr. Shapter, and Mr. Clapp, of Exeter. These will be inserted as early as our arrangements with other correspondents will permit.

The papers of Dr. Babington, Dr. Trayer, and Mr. Beckett, are unavoidably postponed.

Dr. Barnes's lecture will be published in the following number.

Mr. Pearce, a report of whose trial on a charge of manslaughter appeared in our number for November 2, writes to inform us that he has *attended* lectures at University College, but that he has not *delivered* lectures there as stated by Mr. Sergeant Wilkins.

Received—Dr. P. Murphy, Mr. Walsh, and Mr. Sands Cox. Too late for this week.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXXI.

THE VENEREAL DISEASE.

Definition of—division into two classes—importance of this classification—Gonorrhœa—nature of the disease—not dependent upon specific taint—purulent discharge sometimes, however, concomitant with syphilis—Ricord's method of distinguishing between the virulent and non-virulent discharge—Predisposition of certain individuals to gonorrhœal inflammation—Symptoms of gonorrhœa—progress of the disorder—seat of the inflammation—Different forms of gonorrhœa, Balanitis and Urethritis—treatment of—Phymosis — symptoms —mode of cure—the operation for phymosis.

Diseases are termed venereal which are produced and communicated by sexual intercourse. These diseases vary, however, in their nature and character, and can scarcely be looked upon as arising from one similar cause. Modern surgeons have consequently agreed upon their division into two classes: the virulent, or those that produce constitutional disturbance; and the non-virulent, or those that are incapable of reacting specifically upon the constitution. Practically it is of the greatest importance to distinguish between these, as the whole treatment depends entirely upon the distinction.

It is said that the non-virulent form of venereal disease may be produced by intercourse with a person perfectly cleanly and in good health: indeed, the application of any irritating matter, or the existence of any condition that can produce irritation of a mucous membrane, no matter in what organ it may be situated, may give rise to an increase in the secretion of that membrane, and the secretion would at the same time lose its normal character. We see a good example of this action in purulent ophthalmia, when the normal secretion of mucus, becoming vitiated, is charged with a large quantity of pus.

Gonorrhœa.—When the above change of action occurs in the urethra, it is termed gonorrhœa: this is, however, an improper term, gonorrhœa signifying discharge of semen, whereas this disease consists of a discharge of pus from the lining membrane of the urethra in the male, or from the mucous coat of the vagina and the surface of the labia and other external genital organs, and even sometimes from the mucous membrane of the uterus, in the female. Dr. Swediaur, an authority on venereal diseases, attempted to substitute what he considered to be a more expressive and correct term in the place of gonorrhœa—viz. blennorrhagia; but this is equally incorrect with the former, as it signifies a flow of mucus, and, as I have already shown, the disease consists in the secretion of pus, not mucus. The most correct name hitherto applied to this affection is, I think, pyorrhœa, which signifies a discharge of pus. The old name is, however, still so generally employed, that I think it better to retain it in the present lecture, in order to avoid the confusion that may perhaps otherwise arise from the adoption of new terms as yet very limited in their use.

Gonorrhœa is, then, merely an inflammation of the mucous membrane of the urethra, and can produce no specific constitutional effect: it may perhaps occasion ophthalmia or orchitis; but the first can, under such circumstances, only be produced in consequence of contact of the matter from the urethra with the mucous membrane of the eye or eyelids; and the second is the result of extension of the inflammation along the vas deferens. If copaiba be given, an eruption on the skin may be produced by its action, or inflammation of the joints set up; but still there is nothing which can, in my opinion, be traced to virulent or specific action, and there is no danger of any specific eruptions arising.

It was formerly supposed that the matter discharged from the urethra in gonorrhœa issued from ulcers formed in the passage: such an idea probably arose from the opinion that pus was invariably formed only as a consequence of the ulcerative process. This question has, however, long since been set at rest, as it has been proved that a secretion of pus may take place without the formation of an ulcer or even the abrasion of the surface of the tissue; and in post-mortem examinations of persons who have died while known to be infected with gonorrhœa, no appearance of ulceration could be discovered in the canal of the urethra or in the neighbouring parts; but often, on the contrary, a thickening of the mucous membrane is found both in cases of chronic ophthalmia and chronic gonorrhœa.

Although there can be no doubt of the non-virulent character of true gonorrhœa, it is not always easy to say that a purulent discharge from the urethra is not occasioned by the action of a virus having produced a chancre within that canal; and in such a case of course the disease would be capable of going on to secondary symptoms, and the virus of producing a chancre in another individual. It is of great importance to form a correct diagnosis under these circumstances. Ricord recommends inoculation for the pur-

pose of ascertaining whether the disease be virulent or not, and with this object he inoculates his patient on the thigh with some of the matter from the urethra: if it produce only slight irritation, and the puncture then heals up quickly, it may be confidently looked upon as not being the result of a virulent or specific action; but if, on the contrary, it produces a distinct pustule and subsequent specific sore, it would be sufficient proof that the disease is of a virulent character. The history alone of a case will never greatly assist the surgeon in his diagnosis, as patients are seldom able, even if they are willing, to throw much light upon the subject.

Some individuals seem to be much more liable than others to the attacks of gonorrhœa: this constitutional disposition is called a catarrhal diathesis; and in constitutions possessing this tendency strongly developed, all the symptoms of gonorrhœa may present themselves without any sexual intercourse having taken place. The lining membrane of the urethra is subject to inflammation from a variety of causes unconnected with venereal taint; and, therefore, purulent discharges sometimes commence from that canal without any apparent cause, and may always be produced by the injection of any irritant, such as bichloride of mercury or dilute Liq. Ammoniæ, whilst the urethra is in a state of excitement from erection, or even any morbid cause. It is stated by Cullerier and Ratier that excessive venereal excitement may produce an attack of gonorrhœa even between individuals whose organs are in a perfectly healthy condition. This is an important consideration in medical jurisprudence; for it has often been asserted as proof of rape that the subject has been infected with gonorrhœa, particularly in the case of violation of female children: as a purulent discharge may, however, be, and no doubt is often, produced by causes wholly independent of sexual intercourse, we perceive how much caution is necessary in giving a positive opinion in these cases. The gonorrhœal discharge sometimes appears to be produced sympathetically with affections of other parts of the body: thus it is said to have come on simultaneously with the cutting of a tooth, and this several times in the same individual; and I have myself known a case wherein a severe gonorrhœa invariably accompanied an attack of gout, commencing and disappearing with it: in the last case it is probable that the gonorrhœa was the consequence of the irritating condition of the urine at the time, in consequence of its concomitant chemical changes. Mechanical irritation of the urethra will also produce an effect similar to that I have described; and it is well known that the introduction of a rough or ill-cleaned bougie may be followed by discharge from the urethra having all the characters of that in gonorrhœa. All this would go to prove that true gonorrhœal discharge is not the result of the action of the virus of syphilis; and as another proof, I may mention that gonorrhœa can be communicated to the lower animals, whilst they are inaccessible to the influence of the virulent form of venereal disease.

The time at which gonorrhœa first makes its appearance after sexual intercourse differs very much in different subjects; it is said to vary from a few hours to eight or ten days, and in some instances even five or six weeks have elapsed between the connection and the apparent commencement of the disease; it usually happens, however, that symptoms come on in from six to ten days, but in by far the greater number of cases the symptoms commence between the third and seventh days after intercourse.

One of the first signs of gonorrhœa is generally an itching sensation at the extremity of the urethra, the irritation often extending over the end of the penis; there is also a painful feeling when passing the water, and the lips of the urethra begin to swell and become fuller than is natural; soon after these symptoms have set in the discharge commences, a drop or two of purulent matter being noticed; the penis is altogether somewhat swelled, and the glans red, and looking as if half excoriated; it is very sore to the touch, and is often covered by a secretion: the canal of the urethra seems to be narrowed, consequently the stream of urine is smaller than natural: this narrowing of the urethra is probably produced by the swelling of the penis and of the lining membrane of the urethra. In gonorrhœa the urine is often mixed with blood, and there is ardor urinæ and chordæ, or at least a tendency to it: the latter is occasioned by the deposition of lymph in the corpus spongiosum, preventing that part from expanding to its normal extent, while the irritation of the urethra producing frequent erections, the penis is brought into a curved form: this condition is accompanied by excessive pain. The inflammation continues to extend from the fossa navicularis to the lacuna magna, and afterwards to the corpus spongiosum, and sometimes even to the perineum: when the inflammation has thus extended itself the under part of the penis is very sore to the touch, and this soreness is felt as far as the anus, and gives great pain in sitting. The inflammation may still, however, go on increasing, reaching the membranous portion of the urethra, and causing spasmodic stricture; thence to the prostate gland, giving rise to great difficulty in making water, and a violent and painful priapism; lastly, it may extend to the bladder, increasing the suffering of the patient by giving additional

pain, and a constant and pressing desire for micturition.

When the gonorrhœa has become established, the natural mucous fluid secreted from the surface of the urethra is changed to a whitish viscid matter, becoming gradually thicker, and assuming more and more the character of ordinary pus; when the inflammation is very severe this secreted matter becomes greenish in colour, and shreds of lymph are sometimes expelled from the urethra with the urine. It has been well remarked by writers on this subject that these changes depend upon the intensity of the inflammatory action, and not upon any specific poisonous properties in the fluid itself; and any other irritation, no matter what may be its source, equal to that existing in cases of gonorrhœa, will give rise to similar appearances.

In gonorrhœa I believe the discharge seldom arises from a large extent of the surface of the urethra, the portion of the membrane which has become pyogenic not usually reaching more than about two inches from the orifice. When the inflammation acquires great intensity, a discharge of blood sometimes takes place from the urethra: this is generally merely sufficient to tinge the urine, but it may increase to a complete discharge of blood. There are usually many symptoms present in a severe attack of gonorrhœa which arise from sympathy of other parts with the urethra: for instance, pain and uneasiness are generally experienced throughout the region of the bladder, the scrotum and testicles often become extraordinarily sensitive, and the latter sometimes require suspension; the glands of the groin are also occasionally sympathetically involved, and become enlarged, and suppurate. When the bladder is included in the extension of inflammation the condition of the patient is much more distressing; owing to the irritation of that organ it cannot bear the ordinary amount of distension from the urine, consequently the patient cannot retain his water, and is obliged to pass it the moment the desire is felt: this is accompanied by violent pain both in the bladder and in the extremity of the penis. If an attempt be made to retain the water the pain becomes almost unbearable, and even after the bladder is emptied there remains some pain, which lasts for a considerable time.

Gonorrhœa occurs under two different forms, and it is therefore divided by surgeons into Urethritis or internal gonorrhœa, and Balanitis or external gonorrhœa. The external, or, as it is sometimes called, the spurious gonorrhœa, affects the mucous membrane of the glans and prepuce without at all extending into the urethra; it is often accompanied by aphthous sores, and the skin of the whole of the penis becomes inflamed; it occasions phymosis, and sometimes goes on to ulceration of the prepuce. This is external gonorrhœa.

Whatever may be the cause of a gonorrhœa, it is impossible to distinguish between that produced by sexual intercourse and that having some other origin; and whatever may be the opinion entertained as to the identity or otherwise of this affection with syphilis, one thing is certain, it is a disease of a highly inflammatory nature: this would seem to regulate in great measure the system of treatment to be adopted for its cure. The means of treatment are of two kinds, internal remedies and topical applications: in the acute stage antiphlogistic measures must be adopted; and in the army, where we had a tolerable amount of practice in this way, we used to cure almost all our cases in ten or twelve days. The system we always adopted was to put the patient to bed, and give tartar emetic, so as to keep him in a constant state of nausea; the discharge, which was thick and pus-like, then became thin, and the chordæ and priapism, which are so distressing to the patient, ceased almost immediately; in some cases leeches were applied to the perineum; occasionally blood was taken from the arm; and, having subdued the inflammatory symptoms, as an internal remedy we gave the balsam of copaiba. In private practice we cannot, however, get patients to submit to quite such stringent measures; but at the same time I think you should always be somewhat active in your antiphlogistic treatment. After giving purgatives and nauseating doses of tartarized antimony to subdue the inflammation, I have found the following mixture very efficacious:—℞ Balsam Copaiba, ℥ss.; Pulv. Cubebæ, ℥ss.; Liq. Potass. ℥jss.; Mucilag. Gum. Acaciæ, ℥ss.; Aquæ destillata, ℥vijss. M. ℥j. bis in die sumenda. This mixture should never be taken upon an empty stomach: about eleven and three o'clock are, I think, the best times; the mixture alone will remove all the violent symptoms, and stop the discharge, but unless previous lowering treatment has been adopted, the discharge will return; if, however, purgatives and tartar emetic have been given beforehand, the above mixture will almost always effect the cure. My own practice is to give the mixture first, to alleviate the distressing symptoms; I then employ antiphlogistic treatment, and afterwards recur to the mixture to complete the cure.

Phymosis.—In external gonorrhœa there often arises inability to draw back the prepuce, owing to its becoming swelled and thickened; in that case the discharge collects behind and between it and the glans, and is somewhat difficult to reach: when in this condition, however, the prepuce need not generally be

divided, as any topical application may be injected behind it: the black wash is the best preparation for this purpose, but Ricord has strongly recommended the use of a solution of nitrate of silver, six grains of the nitrate being dissolved in an ounce of water: under these circumstances I also always employ at the same time the Liquor Plumbi Diacetatis lotion to cover the whole of the penis, for the purpose of subduing the local inflammation. Ricord also states that contact between the two inflamed mucous surfaces tends to keep up inflammation; he therefore proposes to carefully introduce a piece of lint between them; I have found this plan to be very effectual: when the skin becomes much inflamed, and the inflammation extends downwards to the root of the penis, the skin sometimes separates from the corpora cavernosa, and deep and extensive sloughing is the result.

Let me here again remark that this is not a specific disease: mercury is therefore not required; but antiphlogistic remedies must be had recourse to, and antimony is, I think, the best. For the purpose of depletion I bleed if necessary from the arm in preference to the local application of leeches; for if by chance the gonorrhœa be complicated with a chancre in the urethra, the leech-bites may every one become syphilitic ulcers. Now, as it is almost always a matter of uncertainty whether there be a chancre or not, when you have a patient with a prepuce incapable of being drawn back, it is safer to cup in the perineum, or bleed in the arm, than to apply leeches to the part; as in the latter case it is possible that a great number of chancres may be the result of your attempted curative measures. Ricord states, however, that neither the number, size, nor seat of the chancres makes any difference to the cure, unless they be phagedænic; but in this opinion I think that he will find very few supporters. In the treatment of the external gonorrhœa, the position in which the penis is maintained is very important: it should be supported on the abdomen, so that on one hand the descent of the arterial blood is checked, and on the other the return of the venous blood to the heart facilitated; the inflammation should then be subdued by antiphlogistic treatment and perfect rest. With this object a lotion of the Liquor Plumbi Diacetatis and Spirit. Vini should be applied; and if the prepuce be constricted it ought to be injected with black wash; it is also a good plan to apply a layer of lint between the prepuce and the glans. Should this inflammation go on unsubdued, phymosis is the result: if such should be the case, I strongly recommend you as a principle in practice to avoid dividing it if possible, as the operation is likely to lead to considerable deformity, and by poppy-head fomentations, rest, and general antiphlogistic treatment, it may usually be removed without much difficulty. Sometimes, however, the operation is unavoidable, and it becomes necessary, not on account of any alteration in the skin, but owing to the swelling and thickening of the mucous membrane, which occupying so much more space than it naturally ought to do, prevents the skin from being drawn back over the glans. If, then, it is found that the discharge continues obstinately, and that there are sores beneath the prepuce, it must be divided, and if small warty excrescences be perceived the prepuce ought to be freely laid open. In such a case Ricord would inoculate the patient with some of the matter, and if a chancre were the result he would proceed at once to administer mercury, upon the conviction that the disease was specific in character.

The operation for phymosis is easy of execution, but like all other operations it may be well or ill done: if the skin be much drawn forwards before the director is introduced, it will be divided too extensively in proportion to the mucous membrane; the director should therefore be introduced before the skin is drawn forward, and should be passed behind to the glans, so that both skin and mucous membrane may be divided to an equal extent. This is the ordinary operation for phymosis, but my own experience has shown me that it is better to divide the prepuce on its under surface, by the side of the frænum, as the incision in that situation causes very litttle deformity.

Congenital phymosis.—There is a description of phymosis which is not the result of disease, but which proceeds from congenital malformation of the parts: in such cases the prepuce should be circumcised. This operation is performed by drawing forwards the skin of the prepuce, and with one sweep of the knife excising its extreme portion; by this the skin only will be cut off, leaving the mucous membrane uninjured: the latter may then be split open to the corona glandis, after having been slit at its preputial edge with a pair of scissors. In this form of phymosis it sometimes happens that the aperture left through the prepuce is so small that a knitting needle can scarcely be introduced into it: in consequence of this condition there may exist great difficulty and pain in passing the water. There are a great number of small follicles about the corona glandis, and the secretion from these, if confined, rapidly undergoes decomposition. In phymosis this is likely to happen; indeed, from the difficulty in keeping the part clean it is almost a certain consequence, and then serious diseases are probably set up in the part. Sir Astley Cooper says he "never saw a case of cancer of the penis in which this condition of the prepuce had not congenitally been present."

Original Communications.

OBSERVATIONS ON THE CLINICAL HISTORY AND PATHOLOGY OF ONE FORM OF FATTY DEGENERATION OF THE HEART.

By Edward Latham Ormerod, M.B.

Caius College, Cambridge; Licentiate of the Royal College of Physicians; Late Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital.

[Continued from p. 837.]

Part II.—Continued.

There is a point of great interest in this case. There was extreme disease of three sets of valves, without any valvular murmur. Now this circumstance is not very uncommon as concerns the left valves, and Dr. Blakiston (On Diseases of the Chest, p. 226) gives it as the result of his experience, that tricuspid disease rarely causes a valvular murmur. My own more limited experience would not quite admit so general a statement, but certainly in this patient there was an inefficient state of the tricuspid valve, and there was only a suspicion of a murmur. A much better test, however, than the ear, in a complicated case of long duration like the above, as to which valves do their duty, is the anatomical examination of the different cavities of the heart. Accordingly, we find that the right ventricle was hypertrophied, and its fibres in a state of active growth; while the left side was atrophied, and its elementary fibres degenerating.

There is nothing to detain us on the subject of the right side of the heart, where there was merely excessive action of the muscle to compensate for the imperfections of the valve. But why did not this same process take place on the left side? Probably the obstruction at the tricuspid orifice reduced the stream in which the left ventricle had to act, and relieved it of the *vis a tergo* through the pulmonary capillaries. The stream was too small either to cause a murmur or to tax the powers of the heart: and so the left ventricle shrunk back again to the requisite dimensions, and its supernumerary fibres became atrophied, some of them being in the process converted into fat. Let me not be misunderstood; when the stream is too small to produce a murmur, it does not follow that the labour of the heart is also diminished: quite the reverse; the bell may be silent either for want of the means to make the sound, the hammer, or for want of power to move the hammer, which has rusted in its place. So the murmur may cease when the whole quantity in the ventricle is all too small, or when the overloaded heart cannot send a stream large enough through the contracted orifice. The former condition appears to have obtained in this case.

It is possible to suggest other explanations, but the above appears the most probable. Extreme disease of the tricuspid valve is very rare; but the following case may be quoted in outline, in support of this view:—

Disease of the mitral and tricuspid valves—Death by exhaustion.

Jane Brooks, aged 42, first came under notice in 1846, when she had hemiplegia of the left side, of which, however, she got quite well. Seven months after, she was admitted after an attack of this nature:—She had turned pale, fallen, remained unconscious for half an hour, and then recovered without any paralysis. At this time she had a murmur with the systole, audible at the apex, and shorter at the base of the heart.

She came again under notice in September 1848, suffering from anasarca; and this time she came into the hospital to die. I never saw any one sink so quietly; but for her cold pulseless hand I could scarcely persuade myself that she was in the very act of dying.

On examination of the body after death, the frame was found generally healthy, only on the upper surface of the right corpus striatum, in front, was a yellow depressed space, about a quarter of an inch across, beneath which the cerebral substance was grey and soft. To the outside of this, and behind, two other similar spots were noticed, hard and yellow externally, grey and diffluent within.

The heart was large; it was chiefly the right side that was thus affected. The tricuspid valve was thickened and opaque, and a round edging encircled the orifice, running along the edges of contact, with a hard transparent granule projecting here and there at the salient angles. The mitral orifice was reduced to a narrow chink with rough, earthy, thickened edges.

The fact appears, from both of these cases, to be, that an obstruction at the right side of the heart diminishes the labour of the left ventricle. The two next cases, however, go far to vitiate the conclusions which this digression has been designed to guard.*

* Dr. Latham has recorded a case (Diseases of the Heart, Vol. ii., p. 40) where the appearances of the heart closely resemble that described in many of these cases as characteristic of the disease. "In its large carneæ columneæ were some peculiar deposits, giving them the appearance of

CASE XV.—*Valvular disease—Fatty degeneration of the heart.*

Lætitia Dale, aged 40, August 24, 1848; Hope front ward; thin, with an anxious expression, suffering intense dyspnœa, her legs œdematous and vesicated in points. Pulse 96, soft, irregular. She said that she had never had acute rheumatism, but that fifteen years ago she was once much frightened, and fell, and that ever since that time she had suffered palpitation and dyspnœa, and for the last five years anasarca.

Her heart's action was very irregular, and there was extended dulness on percussion over the cardiac region. There was a systolic (and diastolic?) murmur most audible on the level of the fourth rib, not notably prolonged in any direction except towards the apex.

She was under observation about a fortnight, till her death; but there is no notice of any particular occurrence, beyond the continuance of her intense dyspnœa.

On examination of the body 33 *hours after death*, the lungs were found œdematous; the right pleura was adherent; the cavity of the left contained about a pint and a half of fluid.

The heart was large, weighing ℥xvj.; it was chiefly the auricles and right ventricle that were enlarged, being dilated, and their walls thickened. The valves were all healthy, except the mitral, which was rigid, much thickened, and the edges agglutinated, so as to form a fissure about an inch long, which was ragged, but not ossified at the extremities. The endocardium was continued over the thickened edges of the valve, which projected like a round moulding beyond the line of attachment of the chordæ tendineæ. Interlaced among the carneæ columnæ lay many bits of older coagulum than were found elsewhere; and when the stains of decomposition had been removed by maceration, it was evident that both ventricles were in an extreme state of fatty degeneration; buff-coloured spots, such as have been already described, appearing all over their surface.

The liver looked shriveled; it weighed lbijss., and was rather fatty. The spleen was small and hard. The kidneys were small; the cortex uneven, but well defined. The stomach contained much dark mucus; the intestines were apparently healthy.

CASE XVI.—*Disease of the aortic and mitral valves—Fatty degeneration of the heart.*

William Jordan, aged 10; John front ward, December 1847; a pale, delicate little boy, who had suffered from dyspnœa all his life, had anasarca for a fortnight before admission. There was then a purring tremor to be felt in the second right intercostal space, close by the sternum; and a double murmur to be heard, loudest during the systole, and at the base of the heart. The heart's action was very irregular, beating in triplets, thus — 4, 2 : 4, 2 : 3, 1 : 4, 2 : 4, 2 : 3, 1—the length and intensity of the murmur being expressed by the numbers, and the two last beats of each triplet running into each other.

He continued under observation in the hospital till February 11, during which time the auscultation remained the same, and there was little change in his condition from day to day. The only circumstances which attracted much attention were his vomiting almost daily, about 5 P.M., and occasional attacks of intense dyspnœa about 7 P.M. The former nothing relieved, the latter yielded in a most striking manner to the action of a blister plaster and diuretics.

He remained at home till the middle of May much the same, when his breathing became more difficult, and his cough increased. Suddenly, one morning in his distress, he rose out of bed—sat in a chair—then sank down, and died about two minutes after having been replaced in bed.

On examination of the thorax 36 *hours after death*, the pleuræ were found partially adherent about the base; the lungs were œdematous, and about their bases congested, as if from commencing pneumonia.

The pericardium contained two or three ounces of clear fluid. The heart was much dilated. The right valves were healthy: the mitral valve was a little thickened, but, though some of the chordæ tendineæ were ruptured, obviously efficient. There were only two aortic valves, imperfectly divided into three, almost destroyed by ragged ulceration. There were little zig-zag buff-coloured lines beneath the endocardium of both ventricles.

There was nothing so very peculiar in the mode of this little boy's death as to make one look for an explanation of it in the fatty disease of his heart. It is a very common thing (as already noticed) for sufferers from valvular disease to die thus suddenly after some little exertion. And more particularly children are liable to die thus, partly because their movements are more sudden and less under our control than are those of adults, and partly because the generally healthy

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grained oak." The case, on a careful examination, bears strongly in favour of the conclusion that this degeneration does not occur in hearts where the valves are inefficient,—a conclusion which, at first sight, it appears to contradict. But as the case was one of acute endocarditis, and there had formerly been acute pericarditis, there is a possibility that these might be recent or obsolete inflammatory deposits, and, as such, unconnected with the present subject.

state of their organs enables them to live under a condition of abiding disease greater than what an adult could bear. And so they are more liable to be suddenly cut off by some trifling accident, as was this little boy by the trifling exertion which his intense distress induced him to make.

The two last cases differ from all the others here adduced, in the fact that the valves were in a condition requiring increased action of the heart.* Strongly as they weigh against the conclusions that this degeneration is essentially an atrophy, it must be remarked at the same time that in the last case the heart was dilated rather than hypertrophied; in a state, namely, of passive, rather than of active resistance to the pressure of the circulation. With regard, however, to Case XV., I had rather leave it as an exception, than attempt to explain it on any grounds which, however plausible, should still be as unsatisfactory to others as to myself.

One more remark: fatty disease of the heart is generally believed to be closely connected, as a predisposing cause, with rupture of the organs. This case, however, must not stand as an illustration of this connection, for the ruptured ends of the chordæ tendineæ displayed, on the most careful examination, no evidences of fatty degeneration. Such changes in the fibrous textures of the heart my own experience would lead me to connect rather with that peculiar form of change of the valves which was here noticed.

CASE XVII.—*Encephaloid disease of the pericardium—Fatty degeneration of the heart.*†

James Cooper, aged 45; John back ward, May 1846; a navigator, intemperate, healthy till eighteen months ago, when he began to suffer from pain in the left hypochondrium. This pain has now moved into the epigastrium, and occurs in paroxysms. He has been getting gradually weaker, so that within the last five months he has given up work. Now his face is sallow, his expression anxious; tongue moist, clean, red; pulse 100, very feeble; bowels regular. His feet are a little swelled. Urine scanty, acid; spec. grav. 1023, not albuminous. On *auscultation* the heart's sounds are not clear, but they are not accompanied by any morbid sound.

He sank gradually; the immediate cause of his death appeared to be exhaustion from diarrhœa. He had found considerable relief to the epigastric pain, when in Guy's Hospital, from dry cupping; and during his stay in St. Bartholomew's the nausea and vomiting, of which he for a while complained, were removed by a blister-plaster applied to the epigastrium. There was absolutely nothing else to notice in the progress of this very obscure case.

The body was examined 12 *hours after death.*—Passing over the lengthened details of the dissection relating to the state of recent disease of the lungs, and encephaloid disease of the pericardium, with doubtful scirrhus of the pylorus, the heart was found natural in size; there was an ordinary "white spot" at the apex; there were no traces of any malignant deposit in the tissue of the heart, but beneath the lining membrane, and also on section of the walls, appeared numerous buff-coloured zig-zag spots. The valves were all evidently quite efficient.

The other organs were healthy.

The first explanation of the fatty degeneration which suggests itself in this case is, that the heart had been stronger, to fit it for the requirements of the daily labour of a navigator. But when this daily labour was changed for a bed of sickness, the fibres immediately became atrophied and fatty. Another explanation would refer this fatty degeneration to the effects of old inflammation of the muscular structure of the heart; looking for its cause in the encephaloid masses of the pericardium, and for its symptoms in the wandering epigastric pains. Abstractedly there is no objection to either planation: both, indeed, may be correct. But while it is certain that the premises of the first conclusion existed, it is not certain that those of the second did.

It is possible that the connection between granular disease of the kidney and fatty degeneration of the heart does not appear from the details of dissections to be as close as it really is. For with granular disease of the kidney there is very often connected some great obstruction to the capillary circulation, the signs of which appear, before death, in dropsy and in an increased action of the heart. And after death, an hypertrophied left ventricle, with an aorta which it has twisted from side to side of the spine by its violent contractions, are traces of a state of things which could as little have allowed of atrophy as could the ventricle of a heart affected with valvular disease. This circumstance may prevent the change from manifesting itself: whether there be any strong tendency to such a change, there will be occasion to consider hereafter.

CASE XVIII.—*Anasarca—disease of the kidneys—Fatty degeneration of the heart.*

Catharine Knowles, aged 27; Mary back ward, April 1847; a needlewoman, temperate, and healthy till three years ago,

* Since writing the above, another similar case has come under my observation.

† Med. Chir. Trans. Vol. xxx., p. 46.

when the catamenia ceased after exposure to cold. At that time her legs swelled, but the œdema seems to have disappeared, till eight months ago, when her legs began to swell again; and now she is generally œdematous, and has ascites also. She has pain in the right hypochondrium, cough, and dyspnœa.

Active purging by bitartrate of potash relieved the swelling, but she gradually sank about a fortnight after admission. It does not appear certain that her urine was ever examined.

On examination of the body after death, the lungs were found generally emphysematous, and œdematous in points.

The heart was small, the valves healthy; there were a great many little zig-zag buff-coloured lines beneath the lining of the right ventricle; none beneath that of the left.

The kidneys were large, rather uneven on the surface, the capsule not unnaturally adherent. The cortex was of a pale yellow, contrasting in this respect with the pink colour of the pyramids, and containing distinct small fatty deposits: [it is not mentioned in the original note in what structure these deposits had their seat].

The next case also presents the fatty degeneration limited to the right side of the heart. In this respect only, and in the fact of the kidneys being diseased, does it resemble the case last detailed. Two more dissimilar conditions of life can scarcely be conceived than those of a suburban actor, and an overworked London sempstress. The renal affection is one of the many diseases caused alike by dissipation and distress: the cause of the degeneration of the heart is not equally obvious.

CASE XIX.—*Anasarca—Albuminuria—Fatty degeneration of the heart.*

Robert Adams, aged 46; John front ward, April 1848: an actor, intemperate, but healthy till lately. He had rheumatic fever "some time ago," and since then has had palpitation on exertion. He had a severe cold six months ago, but the present symptoms do not date more than two months back.

He is a large, heavy man, face sallow, expression anxious; tongue furred on the dorsum, red at tip and edges; pulse 108, small, soft; bowels regular. He suffers from anasarca, with slight ascites. The heart's impulse is forcible to the right of the sternum and in the epigastrium, unaccompanied by any abnormal sound; urine, sp. gr. 1010, albuminous.

He was under observation for a week. The chief point of interest was the difficulty of administering opium to calm the delirium from which he suffered, and which appeared to have arisen from the want of his usual allowance of spirits; for it was thought unsafe to use either opium or stimulants without first relieving the lungs and heart by cupping. He bore the necessary depletion well; but he became comatose, and so died after three days.

On examination of the body after death, the lungs were found œdematous.

The heart was very large, the walls stiff, like hard leather, and clouded yellow. Beneath the lining of the right ventricle were buff-coloured zigzag spots, and in some of the carneæ columnæ near the apex were little masses of adipose tissue. Under the microscope the appearances were very striking. In the hard stiff parts there were healthy muscular fibrils with well-marked striæ, but singularly twisted and convoluted. In other places the fibres were short, and apparently brittle, but in the buff-coloured parts the striæ were all gone, and numerous oil-globules floated across the field of the microscope.

A communication existed between the cavity of the stomach and the lesser cavity of the peritonæum, which latter exhibited marks of intense inflammation. On laying open the stomach, the perforation was found to be situated near the pylorus: it was about four lines in diameter, the mucous membrane being removed, however, to a much larger extent than the muscular or serous coats. There were also several ulcerated fissures in different parts of the mucous membrane of the stomach.

The liver was in a state of extreme fatty degeneration. The kidneys were of the natural size, hard, rough, marked with granular deposit. The cortex appeared, on section, almost entirely wanting.

Of the immediate cause of death in this case, the peritonitis, there is little to say: it can only be regarded as a morbid appearance discovered after death in a patient whose symptoms had given no reason to suspect the existence of such an occurrence as perforation of the stomach. The physicians of hospitals can tell of human beings brutalized by ignorance, or sensuality and drunkenness, till, by habitual neglect, they have become unable to express their own sensations; and when intoxicating spirits have ceased to ward off present suffering, or want prevents their obtaining them, they come into our large hospitals simply to die: they wish for nothing but to be left alone; for all they can tell of their sufferings, their treatment is like that of a dumb animal, and too often so is their death also. Such was this poor creature.

The muscular substance of the heart was in very striking contrast in different parts of the organ in this case. That the hard leathery condition noticed in some parts is not

one of strength is certain; for it is acquired by the admixture of bundles of fibrous with the proper muscular tissue, which might, indeed, increase the passive, but not the active strength of a muscle. In my own experience it is not dilated ventricles that are usually the seats of this change; rather, it is found to coexist with universal adhesion of the pericardium when general, and, when local, either it has ensued upon endocarditis when affecting the musculi papillares, its common seat, or it occupies the circumference of aneurismal dilatations of the ventricles, as in the case already quoted. There appears, then, judging at least from the situations where it is most commonly met with, no reason to doubt the correctness of the common opinion which regards it as a result of chronic inflammation. The connection of this chronic inflammation with fatty degeneration of the heart, there will be an opportunity of considering hereafter in a more general point of view. On this the next case throws a little light.

CASE XX.—*Anasarca—Fatty degeneration of the heart.*

Joseph Ganny, aged 59; Matthew front ward, January 1847: a watchmaker, of very intemperate habits, who for the last seven years had suffered from shortness of breath, with pain in the epigastrium, was admitted, complaining of inability to make any exertion; palpitation of the heart, and, within the last fortnight, anasarca. He was of a deadly pale aspect. Thirty years ago, after having been ill for three months, he suddenly expectorated about a teacupful of green fœtid pus. This was the end of that particular illness, but he continued to cough and spit occasionally throughout his life. He often spoke with his family about that single copious expectoration.

He remained in the hospital about a week, when, from the absence of all note to the contrary, he seems to have died quietly. All the anasarca had disappeared before death. It does not appear that any albumen was ever looked for in his urine.

On examination of the body after death, the right pleura was found universally adherent, the left free. The left lung contained ten or twelve pisiform bodies, laminated, of a cheesy consistence, and the bronchial glands at the root of the lung displayed the same change (obsolete tubercle). The bronchi were healthy: there was no puckering of the apex. The right lung was dark, tough, and condensed about the base, where, deep in the substance of the lung, was a cavity, with polished walls, of about the capacity of six drachms, containing a reddish fluid. This cavity was of an elongated form; the reticulated markings on its walls strongly resembled the same markings of the bronchial tubes, with whose lining membrane the lining of this cavity was continuous. On tracing the passages which opened obliquely into it they were found mostly to communicate with bronchi,—one, however, returned into the cavity.

The heart was large, its pericardial surface a little injected, displaying a few "white spots," and a little disease of the coats of the coronary vessels. The walls of the right ventricle were singularly hard; the carneæ columnæ were largely developed, and, on section, exhibited a yellow discolouration. The walls of the left ventricle were only a little thicker than those of the right, but much softer. On section, a mottled appearance was observable in the walls and the carneæ columnæ, as of a buff-coloured deposit. The valves were generally thickened, but apparently efficient. Under the microscope the discoloured parts of the heart were seen to be made up of irregular granular cords, with many loose oil-globules.

The liver was small, with hepatic venous congestion. The kidneys were hard and tough, the capsule rather more adherent than natural. The spleen was hard and dark, but of the natural size. The pancreas was singularly large and hard, but otherwise healthy. There was a small hard nodule beneath the serous coat of the stomach, and two or three small hard beads lay in the cellular tissue at the back of the duodenum.

The grounds on which this case is placed in the present class are not fully substantiated by the details; for it is not quite certain, however probable, that the dropsy in this case depended on disease of the kidneys. The most striking morbid appearance, apart from the subject under consideration, was the sac found at the base of the right lung, which was supposed to be the sac of an old pulmonary abscess: it might, indeed, have been an old tubercular excavation, or the remains of a sinus by which pus had discharged itself from the cavity of the pleura; but the results of the examination of the surrounding part of the lungs, and its situation in the lower lobe, did not favour either of these interpretations so much as that of its being an old pulmonary abscess the consequence of pleuro-pneumonia. From whatever cause the cavity may have been originally formed, the curious circumstance is, that it should have continued open for a period of thirty years.

The same induration of the muscular tissue of the heart as was spoken of in the last case was noticeable here also.* Here

* Dr. Fothergill details a case, apparently of this nature, of much interest in connection with the present subject (Medical Observations and Inquiries, vol. v. p. 252). A gentleman, aged

it was confined to one ventricle; the fatty degeneration, however, seemed to have gone on alike on both sides of the heart. Induration appears to have been the change to which all his organs were most liable: liver, spleen, pancreas, kidneys, and heart, were all alike either indurated or contracted, or both.

The next case also comes from the same large class which want and intemperance contribute to swell; but he died of an accident, so to say, before his organs were all fairly worn out: indeed, his heart was almost the only viscus which displayed evidences of the commencement of chronic disorganization.

CASE XXI.—*Pneumonia—Fatty degeneration of the heart.*

John Manning, aged 64; Matthew back ward, May 7, 1847: a lighterman, formerly very intemperate in beer, and so fat that he could not stoop to button his gaiters; but for the last two years he had been out of employ, and his legs became œdematous, and he had become much thinner; still he thought himself in good health, till, on May 3, he was taken suddenly ill, and he became dull and stupid, and unable to express himself. On May 7 he took three hours to walk up from Westminster to St. Bartholomew's (about two miles): he was taken into the hospital with the ordinary physical signs of pneumonia, cold and blue, but without any complaint of cough, and died in about four hours.

On examination of the body after death, the left lung presented the third and second stages of pneumonia, in the upper and lower lobes respectively, proceeding from above downwards. The right lung was emphysematous and œdematous.

The heart was large; all the valves were healthy, except the aortic valves, which were reticular and thickened, but apparently efficient. There were many buff-coloured zigzag lines beneath the endocardium on each side, most on the right. The aorta was extensively diseased, with bony flakes and atheromatous deposit.

The liver was healthy; the kidneys small, healthy; the spleen small, with a single pale spot of so-called "capillary phlebitis."

63, rather inclined to corpulency, after about four years' suffering of the ordinary symptoms of angina pectoris, fell down and expired immediately in a sudden and violent transport of anger. The body was examined by John Hunter, who says, "The heart, to external appearance, was also sound; but upon examination I found that its substance was paler than common, more of a ligamentous consistence, and in many parts of the left ventricle it was become almost white and hard, having just the appearance of a beginning ossification." The valves were apparently efficient: the aorta and coronary arteries were diseased.

The explanation that must naturally suggest itself in this case is the same as that already applied to Case XVII.—namely, that the strength of the heart had latterly been diminishing, on account of the less amount of work required of it; but this process had not gone on in the ordinary way, on account of some peculiarities in the individual. So, instead of the heart shrinking and remaining strong in proportion to its size, as in phthisis, cancer, and other emaciating diseases, the obsolete fibres underwent a different change, and were converted into fatty matter, maintaining the bulk, but adding nothing to the strength, of the heart. Probably the explanation in the two following cases is also the same; the essential cause of the individual peculiarity is still open to inquiry.

CASE XXII.—*Sanguineous apoplexy—Fatty degeneration of the heart.*

—— Horner, aged 57; Luke front ward, July 1846: a harness-maker, who had suffered for years with pain in the head, after three weeks' comparative affluence coming on a long season of want of work and food, fell down in an apoplectic fit. He lay in the hospital for eight days, sensible, but incapable of replying to questions. Then he became gradually comatose, and died in four hours.

On examination of the body twelve hours and a half after death, the lateral and fourth ventricles were found full of extravasated blood, by which the left optic thalamus and the septum lucidum had been torn down. The arteries at the base of the brain were much diseased. There was a little congestion, with œdema, of the lungs.

The heart was flabby, and rather large; the valves thickened, but quite efficient; the right side a little dilated, with some fatty degeneration. The aorta was roughened by disease.

The gall-bladder was full of cholesterine calculi. The left kidney contained several cysts full of a dirty chocolate-coloured fluid.

Sanguineous apoplexy is not a common accompaniment of fatty degeneration of the heart: death by coma, or with the symptoms of apoplexy, is much more common. Mr. Adams's case, already alluded to, and Dr. Cheyne's, both terminated this way; in neither of them was there any cerebral effusion. Dr. Cheyne remarks on his case, in words applicable to all three, "Apoplexy in this case must have depended upon increased action of the vessels of the head. The heart itself was incapable of communicating much impetus to the circulating mass."*

* Dublin Hospital Reports, vol. ii. p. 17

The subject of the next following history, which concludes this series, differed in her habit of body most strikingly from all the rest. A better specimen of a thin wiry frame, as distinguished from the flabby texture of most of those of whom there has been occasion to speak hitherto, could scarcely have been found.

CASE XXIII.—*Fever fatal by exhaustion—Fatty degeneration of the heart.*

Mary Taylor, aged 64; Mary back ward, March 1848: a thin and haggard, but active woman, long a nurse in the hospital, was taken in as a patient with a pain in the hypogastrium. As she was discharged on the relief of this complaint, she was taken as a temporary nurse to attend some cases of fever which had occurred in a surgical ward. For three weeks she kept her health, and then gave up work, more as if worn out than as suffering from any particular disease; but in about ten days, three days after an increase of all her symptoms, a spotted rash came out all over her body. She had severe headache, but her mind was clear to the last. She had no diarrhœa, but simple exhaustion, with a fluttering pulse, hardly sustained by brandy, and finally ceasing about the end of the third week.

On examination of the body after death, the lungs were found congested, heavy, and soft, giving issue, on pressure at their bases, to a dirty grey fluid.

The heart presented buff-coloured spots beneath the left endocardium, such as have been already described in the other cases.

The intestinal canal was quite healthy, except the rectum, the lining membrane of which was thickened, puckered so as to make strictures in some parts and cellular dilatations in others, and slightly ulcerated.

[To be continued.]

AN AMERICAN VIEW OF HOMŒOPATHY.

THE genteel Lilliputian quackery of our day, which bears the imposing name of homœopathy, is another example of the utter absurdity of rejecting all experience and common sense for the sake of a baseless theory: a system which, as the sailors say of a ricketty ship, is only kept together by its paint.

Homœopathy is a thing of words without ideas; a wild dream of medical indigestion, without coherence of parts, or basis of fact. It is unreality set to practice nothingness.—*American Journal of Dental Science.*

BRIEF NOTES ON THE

EFFECTS OF THERAPEUTIC AGENTS IN CHOLERA.

(TREATMENT OF COLLAPSE.)

BY CHARLES BECKETT, M.R.C.S.L., L.S.A.

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[Concluded from p. 706.]

I WILL now proceed briefly to detail my experience of the effects of remedies *in collapse*. And here we may observe that the term "collapse" is applicable to several widely different conditions of the system in connection with cholera. I have only been able, however, to distinguish three forms of it, which differ most essentially, not only in their characteristics, but also in their prognosis, tendency, and appropriate treatment.

The first kind of collapse is one closely allied to prolonged syncope: it occurs early in the progress of serous discharges in children and delicate or anæmic persons.

The patient lies on the back, half unconscious; the pulse is feeble, fluttering, somewhat rapid, and irregular; the breathing is generally slow; the countenance pallid, or faintly bluish, and inanimate; but not shrunken or contracted as in the other forms. There is generally little or no cramp or discolouration of the surface. This might be termed "puerile collapse," inasmuch as children never seem to pass beyond it, even when they die early. It is worthy of remark, that I have never seen a child *blue* from collapse tortured with cramps, or sink in the possession of undisturbed consciousness, or otherwise than comatose.

The mode of death is cerebral; that is, by coma, which precedes in these cases all serious interference with the respiration. In fact, this form of collapse is fatal, not so much from asphyxia as from coma and cerebral congestion, apparently the result of increased density of the blood, and feeble power of the heart. This form is the one which, when seen at all early, has in my hands done so well upon the acetate of lead and chloric æther; under which slight febrile re-

action (which requires ordinary treatment) returns within ten or twelve hours, and the case is saved.

The second form of collapse which I have seen is of a much graver character than the preceding; in it cramps are early found; jactitation is frequent; discolouration much greater; urgent anxiety and conscious distress are manifested, the patient often expressing that he "must die unless relieved;" the countenance is shrunken, but still the eye retains some degree of animation in its expression; the pulse is either entirely absent, or fluttering and indefinable; vomiting and purging are active and frequent; the voice is altered; the patient, however, is able to lie upon the side at will: in short, the powers of life seem greatly oppressed, but not destroyed.

This is, so far as my observation has gone, precisely the case in which the calomel treatment is so especially valuable; being, in fact, our sheet anchor. Nor do I conceive the mode of its administration to be unimportant, the repeated use of a small dose in the form of pill being best adapted for the purpose; and the two grain pill of Dr. Ayre (accompanied with a drop of Tinct. Opii in a teaspoonful of water) has answered the purpose exceedingly well.

The third form of collapse differs essentially from that last described. In it the patient lies on the back; vomits and purges little, or not at all; the surface is extremely discoloured, the lips often of a deep plum colour; the cramps intermit, or are even absent; the eye is sunken; consciousness entire; the surface quite cold; the respiration is gasping, anxious, and preternatural; and if permanently accelerated, death is not far distant.

The mode of death in this form is apparently *pulmonary*; that is, from a true asphyxia of the lung preceding coma by a long interval, or more frequently altogether without the latter.

So far as I have seen, medicine is altogether futile in these cases: calomel fails of the effect ascribed to it; and the duty of the medical attendant sinks into that of a mere registrar of an event which nothing can control. I never saw a case pass into this state which had been watched at an earlier period; and I have yet to see one patient pass through it. All who have seen these cases seem to regard them as moribund from the first; a remark which, as Dr. Graves well observes, is not confined to cholera, but is equally applicable to certain malignant forms of scarlatina, typhus, small-pox, &c.

This fatal form of collapse is related probably to the previous state of the fluids, and to the general habits, as well as to the time which has been permitted to elapse before the case is seen.

I have made an analysis of all the fatal cases which have occurred under my own observation, during the present visitation, and may thus sum up the general result. Of these—

Twenty-two are set down as cases of intense malignity and extreme collapse (when first seen), and which never rallied.

Dr. Ayre's calomel plan nevertheless was adopted in many of them, but I confess without the entertainment, on my part, of a hope.

Fourteen cases were collapse in aged persons, who never rallied. These cases give an average of sixty-eight years to each individual. Few, indeed, recover after 60.

Twenty cases were collapse (the first variety), occurring in early life, averaging about four years to each individual. They sunk in coma, having been seen late, and being often moribund when seen.

Five cases were those of deep collapse, preceded by excessive and reckless intemperance. In one case delirium tremens was evidently present.

Six cases were preceded by bad health or inanition from poverty. One was just convalescent from a long illness; another, a lady, was fully salivated when seized.

Four cases were of that melancholy class, confirmed cholera, leading to premature labour, the death of mother and child resulting in every instance. In every case parturition came on a short while before death, and was completed. It neither seemed to hasten nor retard the fatal issue, which was preceded by coma.

One such case (already mentioned) escaped narrowly with her life by diligent attention and under the use of acetate of lead.

So ends this mournful list.

Intense malignity of the attack, old age, infancy, general bad health, ex-

cessive intemperance, and pregnancy, appeared to have the greatest share in determining the fatal result, and rendering these cases amenable to no treatment, however carefully devised. Fortunately, however, all cases were not of this character. Even many collapse cases presented a more favourable appearance—that described as the "second" variety. I have before me a list of 23 cases occurring in my own practice, which, being in the advanced collapse described, were carried through it to full reaction. All these, however, did not ultimately recover: five sank with secondary fever, two with hæmorrhage from the mouth and bowels, one with pulmonary effusion, and one with suppression of urine and delirium.

This, though it lessens the number of convalescents, does not detract from the value of the repeated two-grain calomel plan, upon which they passed out of the previous collapse.

The treatment of these cases upon Dr. Ayre's plan has my entire confidence, as the best possible mode of treatment, — an opinion which Dr. Sutherland states that he finds to be general. There is another class of cases which yield rapidly to this plan, viz. cases of rapidly approaching cholera, where cramp is an urgent symptom, and exists along with serous purging and vomiting, but where collapse is not actually present.

By giving the two-grain calomel pill every ten or fifteen minutes, I have seen all these alarming symptoms subside in from two to four or five hours. These cases well illustrate the sedative and antispasmodic power of the remedy, and form a distinct class in practice for its employment.

The greatest evil connected with the calomel treatment is that of its being regarded as the only remedy to be employed in every class of cases. Upon this principle it has, I fear, much to answer for: its administration in a large per centage of the "approaching" cases being, in fact, the "breaking of a butterfly upon a wheel."

Aggravated irritation and exhaustion, increased purging and vomiting, horrible salivations and heightened mortality, have, I fear, resulted from the careless or *routine* adoption of this remedy.

Calomel, unless watched and used by competent hands, is no more a guarantee of recovery than a well-tempered blade can be said to ensure the success of an operation.

Those who object to the two-grain dose, either as too large or two small, may be reminded that Mialhe has shown that no remedy acts upon the organism except in a state of solution, and that in the case of calomel this occurs by the formation of a portion of bichloride with the chlorides of the animal fluids. The therapeutic power of a very large dose depends on the proportion of these present, which in cholera is small; whilst the smaller one, except so far as thus decomposed, is, in point of effect, rendered innocuous.

I have seen little or nothing of ptyalism as an after-consequence, and when seen it certainly has borne no proportion to the quantity of mercury administered.

I have alluded to *calomel and opium*. This I have occasionally used in a pill containing half a grain with the one-eighth of a grain in certain cases where vomiting was a prominent symptom, with good effect; but, on the whole, I have been led to prefer the calomel alone in larger doses, or with a drop or two of Tinct. Opii in water.

I wish again to place on record the fact that out of hundreds of cases seen when "approaching" to cholera, not one passed into fatal collapse. This was to me a most gratifying circumstance, tending to show that the disease is by no means unmanageable *up to a certain point*.

In concluding these desultory remarks, I would allude to the extreme debility and anæmic condition which sometimes occurs to persons convalescent from collapse.

The relation of the blood to mental pathology is beautifully illustrated by some of these cases.

The restlessness of choleraic fever exceeds all that I have seen, and in some measure approaches that of insanity or delirium tremens. One patient, a fine young man, who had got through collapse under calomel, was exceedingly restless, and ultimately sunk. He insisted upon being out of bed, and would crawl about the house up and down stairs in a half idiotic way. He never could get through a whole sentence, but would halt at some

word, which he would utter repeatedly in a muttering senseless manner, indicative of great mental confusion, and closely resembling what I have seen from chloroform in operations.

Another young man passed (also under calomel) through deep collapse, and is now convalescent. He, however, during recovery, suffered from transient but genuine melancholia, from which, however, he is rapidly recovering upon the citrate of iron, with generous diet.

Another patient, now almost quite well, yet manifests great forgetfulness incoherency, having stated to his wife that he had been at work, &c.

The apathy and stupidity of patients in secondary fever must have struck every one conversant with the disease: it seems to be closely connected with the relation of defective and impure blood to the cerebral functions.

And here I must close my observations on this most formidable and interesting disease, hoping that they may interest some one of your readers who, like myself, has found in it a rich field of observation, reflection, and practical usefulness.

ON THE

EFFICACY OF RECTIFIED SPIRIT OF TURPENTINE IN THE TREATMENT OF DIARRHŒA.

By James J. Trayer, M.B. &c.
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At a time when diarrhœa of a harassing and too often destructive character is so prevalent, it could not but be interesting, and might possibly be useful, if country practitioners would detail the means they have found most efficient in combating a disease so distressing in itself; so very important, while cholera, to which it most certainly predisposes, and of which it often seems but the prelude, still lingers in our land. Under this idea (and not as claiming the merit of proposing a new remedy) I venture to record the result of a line of practice which has now for eight months been almost my routine, having been arrived at by cautious induction from a carefully observed series of experiments as to the powers of the remedy on which I now chiefly rely, and of whose value I can speak confidently from observation of its effects on others, feelingly from experience of its benefits in my own person, and gratefully for its assistance in all.

If others whose sphere of observation is more extended, and gives a juster claim for credence to *their* results, will try, in suitable cases, the plan proposed, I feel sure they will not regret the trial, and promise, if their report be unfavourable, to weigh well their evidence in modifying a conviction, which, though profound, may be based on too narrow an experience.

While this district has been comparatively free from Asiatic cholera (but one undoubted case having occurred under my own observation), abundant, indeed, and severe, has been the amount of diarrhœa at intervals during the last nine months; the periods of its chief occurrence being coincident with the increased prevalence of cholera in other parts of the island. This I remark more from impression on retrospect than from any very fixed data; though the fact entered into my calculations, as to the probability of the epidemic reaching us, on at least one occasion when this probability was the subject of conversation.

This diarrhœa was characterised by the generally sudden invasion, the very exhausting frequency and nature of the discharges, which, quickly assuming a completely fluid character, were often tinged with blood; the frequent accompaniment of vomiting, or at least of nausea; the trifling amount of abdominal pain (with some marked exceptions, and generally when the disease was being subdued) in most cases; a frequent tendency to periodicity; diarrhœa in some cases prevailing most at night; in others in the day, or after a particular meal; a generally chilly state of the skin; in long continued cases a distressing pain in the loins and lower extremities, with a sensation of fatigue, and as of cramps about to occur, forming a most painful feature of the attack. The sensorium was generally undisturbed. The pulse scarcely affected, till the continued drain had induced weakness and smallness of volume. Respiration natural. Appetite generally good. Thirst not so intense as might be expected, considering the loss of fluids. Tongue

generally clean, or slightly coated and moist, *but flabby*. Urine scanty, and high coloured, in proportion to the amount of the fluid alvine discharges, often depositing copiously, like that passed first after dinner. Skin generally coldish (without rigor or horripilation), except the patient remained in bed. Little or no abdominal tenderness.

Such being the usual features of the attack, it was generally caused by some one article of food which seemed to produce the disease, *almost immediately* on *being swallowed*, or else exposure to cold (especially while perspiring), or these two causes combined to excite some of the most severe cases. Naturally cases occurred of all degrees of intensity, from those in which there was little wrong with the patient beyond a simple looseness, to those which presented more and more markedly choleraic symptoms, two or three appearing so alarming as to excite my fears that, if *immediate* relief were not obtained, I should ere long have genuine cholera to contend with. This, happily, did not occur in any case, the only instance of that disease which occurred to me not having been seen till the poor man was in collapse about four hours after seizure by cholera; supervening, it is worthy of remark, on a neglected diarrhœa of five or six days' standing, and carrying off the patient in about ten hours.

The practice which I adopted in *all* such cases that have occurred to me during the eight months past I spoke of as being now my routine. This word needs some explanation, lest it should seem that age and sex, temperament and circumstances of life, violence of symptoms and known idiosyncrasies, were all confounded in a blind and obsequious obedience to an iron rule. It may be allowed me to remark, that while to one medicine used *in every case*, I give the chief place and first importance, I endeavoured to avoid, by careful adjustment of the juvantia to the exigencies of individual cases, that Procrustes' bed-system of practice which submits all varieties of a disease to the action of one favourite formula.

To be brief, then, the medicine which I use as a sheet anchor in these cases is the Rectified Spirit of Turpentine, in small doses (from 5 to 20 minims), repeated more or less frequently, and variously combined as the circumstances of each case demand; the most usual combination being Tincture of Opium.

In a case of average intensity, my mode of proceeding is this:—If my patient is still up, I order him at once to bed, and apply a light but large bran poultice, moistened with infusion of chamomile, and occasionally sprinkled with laudanum, over the abdomen. This being covered with oiled silk maintains its warmth and moisture for a long time. A large piece of patent epithem is an admirable substitute when it can be obtained. Warm jars placed to the feet, a liberal supply of bedclothes, and a warm, but not close, atmosphere in the bed-room, render great assistance.

As soon as it can be obtained (I generally carry it with me), a dose of Spirit. Terebinth., about ℥xv., is given, combined with laudanum; or if this be for any reason contra-indicated, an equivalent of some other sedative (Hyoscyamus, *e. g.*), or sometimes without any other medicament. This dose is generally felt almost immediately to check the disease; and here, if I were to describe my own feelings, the aptest expression I could use is, that a message seems, as by electric telegraph, to be conveyed on the moment to the whole canal, that the discharges are to cease. In place of the sickly nausea, of the coldness and sensation of incessant movements of the bowels which tell you that your serum is oozing out, a feeling of warmth and cheerful tone at once pervades the system, and tells you that the disease is checked: in fact, this first, or a second dose, would generally complete the cure if the patient would remain in bed for a few hours, and for a day or two observe a strict dietary. If the process be not always so speedy, still, perseverance in the use of these measures has as yet succeeded in every case in which I have tried them, with one exception, which shall be noticed more fully if it seem fit that these observations should be continued.

P.S.—In the former case, and as I ask a trial of my treatment on the part of others, it is right I should here mention what I have found the easiest way of taking the rather disagreeable medicine I propose.

Having prepared the tincture of hops with some fine French brandy, I put in a wine-glass about a drachm of this tincture. I drop in the spirit of turpentine, which floats on its surface. Then, just as the patient is going to drink it off, half an ounce of cold spring water being added, the turpentine is so engaged in the molecular movements that occur while the spirit and water are mixing, as to disappear. At this moment the draught is easily swallowed; and, if care be taken not to wet the lips, its flavour very soon passes off. After a few seconds the turpentine again floats, and, if left for some hours, the mixture becomes troubled and milky, and is not easily taken. Each dose should, then, be dropped out as it is required.

MORBID SENSIBILITY OF THE EYES FROM DECAYED TEETH.

Dr. Hays, at a meeting of the Philadelphia College, remarked that he had seen, within a few years, some curious cases of exalted sensibility of the retina, from a cause which he believes has not been suspected of such an effect, viz. irritation of the dental branch of the fifth pair of nerves. These cases much interested him, and if the College had nothing better to occupy their attention, he would present a verbal sketch of them; he had not prepared a written history of the cases, having no previous intention of submitting them at this meeting.

The first case occurred in a gentleman, the cashier of a bank in North Carolina. At the great fire in Wilmington, he had suffered considerable fatigue and exposure in endeavouring to save the books and papers of the bank, and had, subsequently, severely tried his eyes in arranging the documents which were rescued from the flames. He soon experienced great intolerance of light. For this he was treated by the physicians in his vicinity, but only with temporary relief. He subsequently visited Virginia, and Raleigh, North Carolina, for medical advice; but from none of the remedies or plans of treatment employed in his case did he experience the slightest permanent benefit; on the contrary, the intolerance of light increased to such a degree as to render exposure to light perfect torture. Dr. Hays was written to. Believing the case to be one for which it was not possible to prescribe judiciously until he was enabled to make a thorough examination of it, he requested that the gentleman should be brought on to Philadelphia; but his friends, in reply, suggested that this would scarcely be possible, in consequence of the excessive photophobia under which the patient laboured, rendering the slightest degree of light intolerable. Dr. Hays suggested that the eyes should be entirely defended from the access of light by covering them with a mask of wadded silk. This suggestion was adopted. When the gentleman reached the city, Dr. H. found him labouring under the most aggravated degree of photophobia. In a room so perfectly dark that the doctor was unable to see any object whatever, to the patient the light reflected from his own hands was intolerable, and that from his shirt bosom caused so much suffering that he was obliged to keep the latter constantly covered. The coloured nurse, whom he had brought on to attend on him, happened to enter the darkened room; the light from a white apron she wore produced so much suffering to the patient, that he flew into a violent passion at the poor creature, and threatened punishment should she ever enter his presence again similarly attired. So exalted was the sensibility of the retina, that in the darkened room, where Dr. H. could not see his hand held up before him, the patient was able to distinguish the objects around him, even the figures in the carpet. He was at length persuaded to submit to an examination of his eyes, which he bore with great fortitude. Dr. Hays found scarcely a trace of inflammation of the eyes or of any other apparent disease. The stomach of the patient was somewhat deranged. This being remedied without relief to the photophobia, the Dr. was induced to seek for some other source of irritation, and, after reflection, he was induced to suspect that the teeth, several of which were defective, but not painful, might be the source of the evil. At his suggestion a couple were extracted, but without causing any diminution of the intolerance of light. After some eight or ten days, Dr. H. examined the patient's mouth himself, and upon striking one of the lateral upper incisors nearest to the eye most affected, with a key, the patient winced, as from pain, and stated that he had often experienced a disagreeable sensation to proceed from that tooth. The tooth was extracted; with the loss of the tooth a most disagreeable gnawing or pinching sensation at the back of the eye, which had previously tormented him, ceased. At the root of the tooth there was found a large abscess, while the periosteum of the alveola was thickened. From this time the morbid sensibility of the eyes rapidly diminished, and the patient was soon after sufficiently recovered to return home and resume his duties as cashier of the bank. When Dr. Hays last heard from him, which was last summer, after an interval of nearly six years, he was perfectly well, having had no return of the photophobia.—*Boston Medical and Surgical Journal*, 1849.

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 23, 1849.

WE have rarely met with a document which tends to show more strikingly the injustice with which the medical officers in Poor-Law Unions are treated than that lately published by Mr. Richard Eager, of Guildford. There is no sentimental grievance here, but a plain fact, leading to no other conclusion than that medical attendance on the poor is extorted from the charity and forbearance of the profession. The salary is nominal: it would be a mockery to call it a remuneration. In this, as in hundreds of other cases where the duties are conscientiously performed, the annual payment made by the Board of Guardians only covers the cost of medicines. There is no surplus by which the medical officer can be compensated for the time, professional skill, and anxiety, which the occupancy of the office brings with it.

It appears that during the past year Mr. Eager has kept a daily record of the particulars of his medical attendance on the poor of the Guildford Union Workhouse. He lately submitted an abstract of these particulars to the Board of Guardians, with a letter of application for an increased remuneration—a very reasonable request, considering the amount of salary received and the nature of the services rendered.

It is unnecessary for us to enter into details the correctness of which, as they are now before the public, can be easily tested by any obdurate guardian who believes that they have been "cooked" for the purpose of creating a false sympathy. We shall confine ourselves to a summary for the year ending September 29, 1849, and the result is as follows:—

Medical attendance on the poor of the Guildford Union Workhouse.

Number of visits to the House . .	437
Duration of the visits . .	274 h. 15 m.
Number of visits to the sick . . .	8585
Number of new cases	725
Number of cases cured or relieved	680
Number of deaths	32
Number of medical examinations	779

The cost of medicines during this period amounted to £27. 3s. 1½d.; and as what is by courtesy called the salary amounts to £40, we have the following handsome balance:—

By salary	£40	0	0
By expenses out of pocket for medicines	27	3	1½
Balance on net salary . .	£12	16	10½

Mr. Eager remarks—

"In addition to the above items of duties, at least 660 miles have been traversed in the execution of them, which may be fairly estimated to have consumed an additional 170 hours, making, with the time passed within the walls of the building, an aggregate of time of 444 hours, or 44½ days, of 10 hours each, devoted to the service of the guardians and the poor, the amount of remuneration for which is shown by the above statements to be £12. 16s. 10½d."

The hire of a cab for the minimum period of time mentioned in the above return, would have cost the guardians £18. 5s. 4d.; but it would appear from the result of Mr. Eager's application that cabmen are a more meritorious class of the community, and deserve a higher scale of payment than that which is allotted to the medical officers of Poor-Law Unions. Our readers will not be surprised to learn that Mr. Eager's request for an addition to his salary was refused.

"At a meeting of the Board of Guardians of the Guildford Union, held at the board-room in the Guildford Union Workhouse, on Saturday, the 13th of October, 1849, Mr. Eager's

application for an increase of salary was taken into consideration pursuant to notice, when—

"It was moved by the Rev. D. C. Delafosse, and seconded by Mr. J. Ellis,

"'That the present salary paid to the medical officer of the workhouse is insufficient for the duties performed.'

"When, the motion having been put to the vote, it was negatived, five guardians voting for the motion, and eight against it.

"It was moved by Mr. Hooker, and seconded by Mr. Molyneux, and carried unanimously,

"'That the thanks of this board be given to Mr. Eager for his care and attention to the inmates of the workhouse during the past year.'"

Five members only out of thirteen present at the Board, considered that the salary was insufficient. The majority evidently thought that if a medical officer of a Union receives *one farthing and forty-three hundredths of a farthing for each visit* made to the sick poor, he is *sufficiently* paid!* This is not the way they themselves would like to be dealt with in the ordinary concerns of life; but it appears one rule of ethics applies to Boards of Guardians, and another to their medical officers. In this case we think the conduct of the Board was the more reprehensible, because, while more than one-third of the members voted in favour of an increased salary, *all* concurred in the vote of thanks to Mr. Eager for the careful and attentive manner in which he had discharged his duties during the past year. By this vote they appear to have cut from under them all reasonable ground of opposition to the motion for an increase of the salary.

A case of this kind shows that too much power over the medical officers of Unions is entrusted to Boards of Guardians, and that, when an appeal is justly made to their liberality, they are not capable of exercising this power with discretion or even common charity. It is obvious that their own interests prevent them from acting with fairness to the profession. The meritorious performance of an arduous duty goes for nothing with them. They will pay their medical officer on terms on which a cab-driver, were he not protected by law, would starve; and the officer must either resign or gratefully accept the farthing-fees, with perhaps an annual vote of thanks for the care and attention which, under the present system, he is compelled to bestow gratuitously on the poor!

Seriously, a case of this kind demands the urgent attention of the Poor Law Board. If the facts be as stated by Mr. Eager, the sooner the Guildford system of remuneration is modified the better. The question affects the interests of some millions of paupers, and of some thousands of medical practitioners, and its settlement is of such importance in an equitable point of view, that it should take precedence of all others. The publication of facts of this kind cannot fail to forward the cause of medical poor-law reform. Boards of Guardians are at present in this unfair position with respect to the profession: they are called upon to decide on the adequacy of salaries for services rendered, when the payments are made out of rates levied by themselves. Their interests consist in not augmenting these rates by one farthing: hence they cannot bring a fair and unbiassed judgment to the consideration of any appeal for increase of salary. The *venue* should be changed, and a certain and more liberal scale of payment fixed, below which it should not be in the power of any Board of Guardians to carry it. The interests of the rate-payers would be sufficiently

* The number of 8585 visits gives this result upon the handsome balance left of the year's salary.

protected by giving a power of appeal to the President of the Poor-Law Board.

The loose manner in which verdicts of *felo de se* are returned at Coroners' Inquests is likely to become a question before the superior Courts of Westminster. Sir F. Thesiger has obtained *a certiorari* for bringing into Court the depositions in an inquest lately held at Leeds, in which a verdict of *felo de se* was returned in the case of a lady found dead under somewhat extraordinary circumstances. A verdict of this nature entails not only legal forfeiture, but a forfeiture of the rites of the Church. Until the depositions have been returned, and the case has been fairly argued, we are unable to express an opinion as to the propriety or impropriety of the verdict in this instance. From the statement made by the learned counsel who applied for the certiorari, one thing, however, is clear—the Coroner of the borough of Leeds, like some other coroners, has adopted the practice of rather strongly "directing" the jury on the kind of verdict which they should return. According to the theory of English law, the verdict is supposed to be based on the unbiassed judgment of the jury; but we think in practice it would more commonly be found that the jury merely serve to record a verdict under the "direction" of the Coroner.

We of course cannot object to our contemporaries commenting on articles which appear in this journal: we wish them to exercise a privilege which we always claim for ourselves. Free and open discussion of any subject appertaining to medical science, can only lead to good; but the premises must be fairly stated, or a wrong interpretation may be put upon the motives and conduct of others.

When a statement is made with regard to a particular case, and a mode of treatment under particular circumstances, it is obviously unfair to make it universally applicable. Let our readers refer to the report of the recent trial of Mr. Pearce, on a charge of manslaughter (inserted at page 773), and say whether there was any evidence, medical or circumstantial, to sustain such a charge against him. The learned judge who tried the case, and whose *legal* opinion is of far greater value than that of the subordinate functionary who committed the accused, declared that there was no ground for imputing manslaughter, and the prisoner was acquitted without having been even called upon for a defence.

Mr. Pearce, who is, as we are informed, a medical student at University College, and not one of those ideal quacks "who live in fine houses and ride in fine coaches," &c., was charged with having caused the death of his brother, the deceased, while labouring under a severe attack of cholera, by withholding from him food and sustenance. The question of giving or withholding food in these cases is one of a very delicate kind. The power of assimilation is lost, and the food, if retained, will only aggravate the sufferings of the patient. From the evidence given at the trial of this case, we said—"There are hundreds of medical practitioners who might with equal reason have been put upon their trial for the results of *their cholera practice*." Our Dublin contemporary, the Editor of the Medical Press, "emphatically" protests against this doctrine, which he says amounts to this: "If a quack having no legal or virtual qualification, undertakes the treatment of a patient labouring under a formidable disease, and if the patient dies in his hands, he is blameless, because patients die under the care of legally qualified persons." The emphatic protest might

surely have been spared, for we have broached no such doctrine as that imputed to us. It it a mere *cheval de bataille* created and knocked to pieces by the worthy editor himself, who, in his hostility to homœopathy, altogether mistakes the meaning of the extract which he has quoted. That this mistake may be carried no further, and that we may not be supposed to acquiesce in his erroneous inference, we shall here remind him that our remarks referred to the withholding of *food* in cases of malignant *cholera*, and the simple exhibition of iced drinks and cold water, to persons *labouring under that particular disease.* This practice, which formed the basis of a criminal charge against Mr. Pearce, has been conscientiously pursued by many qualified practitioners; and, although the cases have unfortunately proved fatal, no one has hitherto thought of imputing manslaughter to them for their want of success. It was therefore, in our judgment, more like persecution than an act of justice to impute the crime of manslaughter to Mr. Pearce upon the very slender evidence brought against him at the trial. So thought Mr. Justice Maule, or he would not have summarily dismissed the case. We ourselves, therefore, just as emphatically as our contemporary, protest against the doctrine that quacks who treat cases which terminate fatally are to escape punishment because patients die under the care of legally qualified practitioners. We also protest against the doctrine that any man, whether quack or qualified practitioner, shall be found guilty of manslaughter when it cannot be clearly proved that he had caused death by his culpable negligence or interference. The error of our contemporary has consisted in his making a remark specially limited to a particular case, under given circumstances, applicable to all cases and all circumstances. Neither medical science nor medical journalism can be benefited by such a mode of dealing with published statements.

CASES IN WHICH A LARGE QUANTITY OF CHLOROFORM WAS USED.

Professor Jackson related a case in which a remarkable quantity of chloroform was used. A lady, labouring under a stricture of the upper portion of the rectum, which prevented the flatus from passing, became, in consequence, the subject of an enormous distension of the abdomen, attended with so great a degree of sensitiveness, that the use of palpation and percussion were entirely precluded, and her case was at first involved in no little obscurity.

In the latter part of the month of December 1845, she was attacked by a violent convulsive paroxysm, preceded by a very peculiar spasmodic affection, consisting in a cracking of the head of the humerus in the glenoid cavity, and of the femur in the acetabulum; these spasmodic symptoms continued for about fifteen minutes, when general convulsions set in, accompanied with intense pain. On the 1st of January, 1846, an attack of spasms occurred, and continued for several hours; the urine was retained from a spasmodic affection of the neck of the bladder and urethra, the orifice of which latter was so much retracted that it was difficult to introduce a catheter to relieve the distension of the bladder. A few drops of chloroform were given to the patient to inhale, and prompt relief was experienced. The use of the chloroform was continued daily for two or three weeks, the quantity being gradually increased as the effects diminished. Dr. J. was sent for one morning, and found the mother of the lady in great alarm in consequence of the quantity of chloroform which her daughter had taken. She had inhaled two ounces in the course of the evening, then two ounces more, and an additional ounce in the course of the night, being five ounces inhaled from 5 o'clock P.M. until 10 o'clock of the ensuing morning. Dr. J. found her with a feeble pulse, diminished temperature of the body, and considerable excitement of mind. She insisted upon having more of the ether to inhale. She remained cold and nearly pulseless for forty-eight hours, when all effects of the inhalatation disappeared, and what is remarkable, since that time she has had no return of her spasms. Upon one occasion, having a tooth taken out, the pain of the operation caused a tendency to their return, but this went off without the spasms occurring.—*American Journ. of the Medical Sciences*, 1849.

INTRODUCTORY LECTURE

TO A

COURSE ON OBSTETRICS,

Delivered at the Hunterian School of Medicine,

By Robert Barnes, M.D., Lond.
One of the Physicians to Queen Adelaide's Lying-in Hospital.

On the Importance of Faith in Physiology as a Guide to the Rational and Safe Conduct of Labour.

Nieuwentyt, the Dutch philosopher, and after him Paley, illustrated the argument of design in the creation in the following manner. They suppose a person in crossing a heath to pitch his foot against a stone, and the enquiry to be made how the stone came to be there. The answer might be, that for anything known to the contrary, the stone had always been there. They then suppose, that instead of a stone, a watch had been found, and the same enquiry to be repeated. The same answer could not avail in this case; because, on inspecting the watch, it would be found that its several parts were framed and put together for a purpose, so adjusted as to produce motion, and the motion so regulated as to point out the hour of the day. From the observation of this mechanism, which evinces adaptation of means to an end, the inference is inevitable that the watch must have had a maker.

Applying this argument, Paley goes on to say:—"Every indication of contrivance, every manifestation of design, which exists in the watch exists in the works of Nature." . . . "The contrivances of Nature are not less evidently accommodated to their end or suited to their office than are the most perfect productions of human ingenuity."

There is no department of science which furnishes more striking and convincing proofs of the existence of an all-wise and beneficent Creator than that which is the basis of the healing art—anatomy and physiology; anatomy, which unfolds the physical structure of the human frame; physiology, which reveals the uses and functions of the different parts of that physical structure. Structure and function—means and end, in wonderful adaptation to each other—crowd upon the mind at every step.

I desire the more earnestly to impress upon your memory this the first grand lesson which the study of nature and the humble contemplation of her unerring contrivances should inspire, because it is practically contemned. Nothing but a want of faith could lead to that irrational interference in every case of parturition which has been for some time past urged upon the profession and the public, *per fas et nefas*, with all the warmth of persuasion and all the arts of controversy. Nothing but a blind confusion of physiology with pathology could lead men to interpose their questionable aid in those cases in which the science and experience of the world show to demonstration that interference is needless. Want of faith in the competency of Nature to carry out her own ends has led to presumptuous attempts to supply her supposed deficiencies. Hence it is sought to encumber her with superfluous help—hence the *nimia cura medici* and his meddlesome midwifery.

But to return to the argument before us. I have said that no department of science supplies more convincing proofs of a beneficent Creator than anatomy and physiology; and approaching to the subject with which we are more immediately concerned, I will say that there is no department of anatomy and physiology which abounds with more interesting and beautiful illustrations of contrivance than parturition. For our present object, a glance at some of the most manifest evidences of design in the structure of the pelvis and fœtal skull, the uterus and a general reference to the phenomena accompanying parturition, will suffice. To exhaust them all, the subsequent course of lectures will be too short.

Let us first examine the pelvis in its relation to the skull. I need not say that the end to be accomplished is, the transmission of the child through the pelvis. Let us see what is the adaptation of means to its fulfilment. Let me invite your attention to a comparison of the diameters of the brim of the pelvis and of the fœtal skull. If we first place the occipito-mental or the occipito-frontal diameter of the skull in the antero-posterior diameter of the brim, we find it cannot pass. If we next place either of these, the long diameters of the skull, in one of the oblique diameters (the longest in the living body) of the pelvis, still we find it cannot penetrate the cavity. How is the difficulty overcome? The skull has been aptly compared to an egg; and if we dip the big end so that the ovoid mass may enter the strait with its long axis presenting a certain degree of obliquity with the plane of the brim, we find it passes with facility. This is the position actually observed. The occiput is always somewhat depressed; and in like manner, one parietal protuberance is on a lower level than the other; so that not even the greatest width of the skull is ever opposed to the antero-posterior diameter of the pelvic strait. So the skull passes through the pelvis, the long axis of the egg nearly corresponding with the curvilinear axis of the cavity and outlet. There is

another provision for saving space in the yielding of the cranial bones.

Why is all this complicated adaptation contrived? Why is not the pelvis made large enough to admit of the easy passage of the head in any direction? Because easy parturition must not be obtained at the expense of danger to the mother, at the risk of hæmorrhage, or descent of the viscera, or at the cost of inconvenient bulk. To reconcile the different conditions of the problem, the pelvis is reduced to the smallest size compatible with the safe expulsion of the child. So admirable, indeed, is the adaptation, that the labour is more propitious and safe in those typical cases in which there is no excess of room—in which the nicest relative proportions exist.

I cannot dwell longer on the numerous other instances of contrivance evinced in the relations of the skull and pelvis. Let us glance at the chief motor instrument in the expulsion of the child. At the epoch of parturition, the uterus is an enormous muscular sac, endowed with extraordinary powers of contraction. This property of contraction subserves two great ends:—

1. It imparts a gradual progression to the child, keeping pace with the slow and gradual dilatation of the soft parts of the mother; and we witness a further beautiful adaptation in the *character* of the contraction. The contractions recur by periodical accessions, and are separated by an interval of repose; and not to mention others, I will point to three important indications fulfilled by this provision. The intervals afford rest to the mother, and permit of the gathering of a fresh stock of nervous energy for the ensuing effort; the *gradual* progression of the child is secured, and time allowed for the dilatation of the soft parts of the mother, and the moulding of the fœtal skull; lastly, during the intervals the placental circulation is restored, in order to maintain the life of the child.

2. The second great purpose fulfilled by the contraction of the uterus is the casting off of the placenta when the child is born, and the immediate closure of the mouths of the uterine vessels left open by the disruption of the placenta, averting hæmorrhage.

I will here stop for a moment to advert to one bearing of this property of contraction upon obstetrics, as a disregard of it has led to a false theory and a dangerous practice. In this plate, from William Hunter's work, you will perceive that the placenta, instead of being attached to the fundus uteri, its normal position, may be adherent to the neck and mouth; and if you further reflect, that when labour begins, the body of the uterus contracts, whilst the neck and mouth expand, you will understand that as the placenta cannot follow the receding neck of the womb, there will be a partial disruption between the surfaces of the two organs. This disruption entails an almost inevitable result. The blood, which before flowed onward from the uterus directly into the placenta, and from the placenta back into the uterus, will escape in torrents. *Whence* does it escape?—from the surface of the uterus or of the placenta? Herein lies the point upon which the placenta prævia controversy turns. It has been assumed, in order to justify a novel mode of practice, that the blood, entering the placenta at the points which preserve their connection with the uterus, escapes at the points which are detached. Assuming this to be a fact, the conclusion is simple, that by wholly detaching the placenta you will arrest the flooding; for, if there be no longer a placenta for the blood to flow into, none can flow out. But is it a fact that the gaping mouths of the uterine surface will cease to pour forth blood when the placenta is detached? The reasons, anatomical, physiological, and pathological, which prove to demonstration that the blood flows from the uterus, will hereafter be developed. You will learn, that in proportion as the placenta becomes detached the hæmorrhage increases; and when at last it is entirely detached, perhaps removed altogether, that a frightful hæmorrhage may continue. In this plate of William Hunter's, representing the muscular structure of the uterus, you will admire the mechanism by which flooding is in reality obviated or arrested; you will observe muscular fibres coursing between and encircling the mouths of the uterine sinuses; and reflection will explain to you what daily experience confirms, that the uterine contraction closes up these open mouths as effectually as could the surgeon's ligature. It is not, then, the *separation of the placenta* which secures immunity from flooding, but the *contraction of the womb*. The reported cases of arrest of flooding in the detachment of the placenta form no exception to the rule, nor do they disprove it. The simple rupture of the membranes and the escape of the liquor amnii will frequently answer as well. Both proceedings, by lessening the contents of the uterus, allow that organ to contract upon itself; and neither can be trusted, because the continued presence of the child does not permit that contraction to be complete.

I have glanced at the mechanical and dynamic elements of parturition, and in these we have found the most undoubted evidences of design. It remains for us to enquire whether the same design is not manifested in the physical pain which is the almost inseparable adjunct of contraction. *A priori*, we might infer that that all-wise beneficence, the operation of which is so

forcibly displayed in the mechanical contrivances of parturition, is not wanting here. Why, where everything else is so admirable, should we accuse Nature of imperfection in this respect? It is a short-sighted, sceptical philosophy which centres all evil in pain. If we cannot at once comprehend the use of pain in parturition, is it not because we have been accustomed to consider it simply as a detached and insulated phenomenon? Could we but survey it with a larger ken, regarding it in connection with the general physiology of woman, and further still as a part of the universal system which presides over the relations of the human race, we might perhaps discover that it fulfils both a physical and a moral purpose—that it conspires to a remote, if not to an immediate end.

But pain, obstetrically considered, is it physiological or pathological? Setting aside the aggravated pain which attends *difficult* parturition as not pertaining to our present enquiry, and which is besides different both in kind and in degree from the pain of *natural* labour, we will confine our attention to this latter.

Upon this subject it is with unfeigned pleasure that I quote from the pages of the philosophic Denman; and I will not omit this opportunity of urging upon you the importance of reading and meditating upon the writings of that most scientific and practical of obstetricians. "In the conversation," says Denman, "of those who attend labours, it is often surmised that women have much unprofitable pain. *This statement is not only unfair as to the fact*, but the language is extremely dispiriting; and it is *often assigned as a reason for interposition altogether unnecessary and often injurious* to the mother or child. No person in labour ever had a pain depending on her labour which was in vain. It may not be equal to the accomplishment of the effect we want or at the time we wish, but every pain must have its use as preparatory to or absolutely promoting the effect. And as we are not able to comprehend every possible cause of every state, by endeavouring to remove what appears to be one slight ill, it often happens that *we occasion many, and those of greater consequence.*"

The pain is conservative in its operation. It is the measure, so to speak, of the intensity of the contraction which produces it; it gives a timely warning to the system when the contraction is too violent, and the force of the contraction is consequently subdued. Not only does the pain give warning to the system, but also most important information to the observant practitioner. Denman says:—"When some parts resist the passage of the contents of the uterus, the exclusion of which is the effect to be produced, there will then be pain proportionate to the action to the sensation of the resisting part, and the resistance made. There is no way by which we can estimate the degree of force but by the resistance, nor the resistance but by the pain attending it, nor the pain but by the expression."

I trust I have now said enough to satisfy you that labour is not a disease, but "a regular process of the constitution;" and if you have a firm and proper reliance upon this fact, you will have no difficulty in admitting that it ought not to be treated as a disease. Remedies are for pathology, not for physiology. What is the duty of the physician who is called upon to treat a case of disease? To restore the physiological condition. What, then, shall be his duty when called upon to attend a case of natural labour? Manifestly to preserve the physiological condition. Reserve your aid until it is needed. Do not lapse into that presumptuous heresy now current, which assumes the impotency of Nature to accomplish her own ends in any case of parturition.

Gentlemen, I will stop to ask you, what is the necessary result of this sceptical hypothesis? Universal interference. And do you suppose that universal interference with a process so admirably contrived, the safety of which is ensured by such a host of inimitable provisions, all conspiring to one end, the whole of which is so beautiful in its perfection, can be adopted with impunity? We will see. I will presently place before you a few of the results of this interference. I will direct your attention chiefly to the two principal agents which the spirit of interference has successively introduced into obstetric practice. I refer to ergot of rye, and to ether and chloroform; for these two last may be classed together. I can refer to the experience of the past to show the evils which an indiscriminate use of ergot has already caused; and physiological reasoning will prepare us to anticipate the disastrous results which chloroform will inevitably produce. Experience, too, is unhappily not altogether wanting to verify those anticipations. The one and the other alike subvert the physiological condition.

Ergot. About thirty years ago the ergot of rye was introduced into this country from America; but the American physicians who recommended it accompanied their recommendations with such judicious rules for the limitation of its use to certain cases in which the physiological condition is disturbed, that they ought not to be held responsible for the mischief which has ensued from its application to all cases in defiance of all propriety.

The characteristic effect of this drug is to increase the contractile energy of the

uterus; and were its use confined, as it ought to be, to certain rare cases of deficient energy, under the peculiar circumstances pointed out by the American physicians, it would prove a valuable remedy. Given indiscriminately, it has produced the following effects :—

1. As in natural labour, and many cases of unnatural labour, the contraction of the uterus cannot be stimulated beyond the physiological standard with impunity, too great contraction has caused *rupture of the uterus*. Dr. Trask, an American physician, in a most laborious analysis of cases of ruptured uterus, has shown that many of them were produced by ergot.

2. It is a cause, in a similar manner, of *laceration of the perinæum*.

3. I believe it is a fertile source of *prolapsus uteri*. I have recently had placed under my care a case of prolapsus of the womb and bladder, which was distinctly traced to the improper administration of ergot during labour.

4. It is attended with *great peril to the life of the child*. By destroying the periodical intermission in the contractions of the uterus, the oxygenation of the fœtal blood is prevented, and the child dies asphyxiated. My friend and former fellow-student in the wards of Baron Dubois, Dr. M'Clintock, of Dublin, has also shown that even when ergot does not affect the uterine contractions, it may still poison the child, no doubt by entering its blood. With these facts before us, we shall not be surprised at the following passage from a discourse by Dr. Chetchuti, of Malta :*—"Until the last few months the secale cornutum was used indiscriminately by the native midwives, and the effects upon the life of the offspring became so evident that the Government by a circular prohibited its sale."

Ample experience has shown that the foregoing calamities have arisen from improper interference with the parturient process by means of ergot. Let us see by the aid of the analogy this experience supplies; by what is known of the properties of chloroform; by physiological reflection, tested by such limited experience as the imperfect reports of anæsthetic midwifery supply; what calamities we may anticipate from the indiscriminate employment of *chloroform*. From an analysis of the recorded cases which I published some time back,† it appeared, that according to some gentlemen, chloroform—

1. Always *increased* the uterine contractions.

2. Others asserted that it *diminished* the uterine contractions.

3. Others again assert that it *does not affect* the uterine contractions at all.

It is probable that different doses produce different effects. We will briefly pursue the action of chloroform under each of these suppositions, always bearing in mind that we are dealing with natural labour.

1. It increases contraction. Inasmuch as the natural contraction is enough, all excess is mischievous. And we may fairly anticipate that those evils which we have seen to result from the excessive contraction produced by ergot will accompany excessive contraction produced by chloroform.

2. It diminishes contraction. Inasmuch as Nature supplies the just amount of contraction necessary to effect delivery, diminution will retard delivery, and then we shall have all the evils of protracted labour. This objection is not merely hypothetical. In the analysis referred to I have pointed out that the forceps had to be resorted to to finish labours suspended by chloroform; and evidence is not wanting to show that hæmorrhage is more frequent under its use.

3. It exerts no effect upon the contractions. I might here demur to the truth of this proposition, resting on the testimony of unprejudiced observers, that it does affect the contractions; but assuming that it does not, then it is simply, so far as this element is concerned, superfluous. But it does not follow because it may not affect the contractions that it is not injurious in some other way. We may recur to the observation I have before quoted from Denman, that by "endeavouring to remove what appears to be one slight ill, it often happens that we occasion many, and those of greater consequence."

Increased or diminished contraction entails corresponding evils on the child. The first exposes the child to asphyxia; the second, to the manifold perils of instrumental delivery.

I cannot in this place enter more minutely into the injurious effects of chloroform upon labour, in as far as the influence upon contraction is concerned. I must devote a few words of caution as to the toxical effect of this drug upon the system at large, and I entreat you anxiously to remember that that toxical effect may proceed to the destruction of the mother or child. Do not be led astray by vague assertions that thousands have inhaled chloroform in childbirth with none but good results. Cases of death, and other calamities scarce less deplorable, from its use in childbirth (in greater number than

* Brit. and For. Med. Chir. Rev. July 1848.

† *Lancet*, 1847. It is a subject of much gratification to myself to observe that the objections to the indiscriminate use of chloroform in labour, which I was the first to point out, have since been enforced by some of the most distinguished physicians of the day. While Drs. Collins, Montgomery, Ashwell, and Meigs, have emphatically condemned the practice, scarcely an obstetric practitioner of eminence in this countryhas given it more than a qualified approbation.

are recorded in type) are known to the profession. Cases, now not a few, have been published of death from chloroform, administered by competent persons, with the best known precautions, to deaden the pain of surgical operations. Ask yourselves, who can assure you that a like terrible issue will not follow in any case of labour in which it may be employed? It would carry us beyond the limits assigned to this discourse to enquire into the *modus operandi* of this poison. I will simply point to one illustration. Experiments upon animals, and the *post-mortem* examination of human beings destroyed by chloroform, show that this agent induces great congestion of the lungs and brain. This effect is in an especial manner to be dreaded in parturient women. On searching into the causes of death in childbed, I find that many die at that period, of apoplexy, congestion of the brain, coma, convulsions, and mania. Would you be guilty of the madness of superadding an immediate cause of congestion where the tendency to congestion is already so threatening?

But the reply has been urged that the objections to anæsthesia are of an *à priori* nature. Consider the value of such a reply. Is it not the result of that very want of faith in physiology, or the competency of nature, which it is the object of this lecture to expose? Those who urge it are driven to deny the most obvious conclusions to which physiology points. They postpone physiology altogether, and call aloud for the evidence of direct experiment. But physiology, as Dr. Tyler Smith has strikingly said, "*will not be postponed;*" and we may, at any rate, demur to being made participators in a career of reckless experiments upon the human mother and her offspring in order to qualify ourselves in the eyes of our opponents to express an opinion on the question. The objection to what is here called *à priori* argument sins against the foundation of all reasoning. Even *à priori* reasoning is the application of acquired knowledge or experience to the future. What more is reasoning *à posteriori?* Is all that we know of parturition—all the accumulated testimony presented by the myriads of human beings who have been born into the world—without value in the question? Will nothing serve but the brute experiment? Must all previous knowledge be sacrificed at the shrine of empiricism? If the answer be in the affirmative, I can only say that rational medicine must be abandoned—that the same plea can be and is constantly urged in behalf of every quackery and every nostrum under the sun. The unvarying reply to the sober remonstrance of science, when it interposes the foregone conclusions of previous knowledge, is, "Do not condemn this grand discovery before you have tried it."

Are there not things which our reason, *à priori* if you like, forbids us to experience? Must we commit murder (for the sake of illustration) before we can be qualified to condemn it? I am afraid the objection to *à priori* argument, if carried to its legitimate extent, would subvert society as well as rational medicine. The fox in the fable, who had lost his tail, could expatiate on the advantage to the vulpine race of dispensing with the caudal encumbrance. He, too, rejected all *à priori* conclusions, and confidently appealed to an *argumentum à posteriori*. There are certain experiences which it is dangerous to encounter; that warp the mind, and convert the adept into an interested partisan of the cause of error. Virtue ceases to be applauded by those who have forsaken her paths. The guilty do not condemn themselves.

But the truth is, the objection to chloroform does not rest on *à priori* argument alone. There are, as I have said, experiments enough to confirm the foregone conclusion.

Permit me to refer to another answer which is often triumphantly adduced to justify interference in natural labour. It is said that we do not live in a state of nature; that women in civilized society are in a different position to the women of savage tribes and the beasts of the forest; and that, consequently, the ordinary operations of Nature are modified: in short, that the parturition of woman is essentially morbid. I think this conclusion is somewhat too hastily drawn. It assumes that civilization is not natural to man—a very unpalatable doctrine—one which the reason that is in us, and the history of mankind, alike refute. What is the real influence of civilization upon mortality in general, puerperal inclusive? M. Quetelet says, and proves by abundant statistics:—"It appears to be well established, that in the country where civilization has made the greatest progress, there the mortality is least."* We possess no statistics of childbed mortality among savage races; but this we do know, that every advance in civilization is marked by a corresponding physical amelioration of the human race, which, if not bringing us nearer to a state of nature, at any rate prolongs the period of our natural life. Quetelet observes again, that in this respect, "England has placed itself in a position so advantageous as to have fixed the attention of the learned who have occupied their minds on the theory of population."† The greater

* Sur l'Homme et le Developpement de ses Facultés.

† Op. cit.

success of obstetric practice in this country in our day over other countries and former times is undoubtedly owing, in a great measure, to the consignment of barbarous instruments, and wanton interference of every kind, to oblivion. In the same proportion as Nature has been unmolested by artificial helps has she asserted her own sufficiency. *About the last thing learned* in obstetrics, as well as in general medicine, *is when to leave well alone*, and to discriminate well those exceptional cases where extraordinary aid is required.

Were it needful to enforce the argument I have advanced in this lecture, many other modes of interference with natural labour, more or less mischievous, might be mentioned. I am tempted to allude to one more—I mean the practice of rupturing the membranes early in labour. I make this allusion because there is reason to fear that it is carried to a very unjustifiable extent. The evil consequences of the operation are many, and must be well known. I will not stay to point them out. I think there can be no difficulty in referring the origin of this practice to the same unphilosophical want of faith in the contrivances of Nature to which we have traced the extensive use of ergot and anæsthetic agents. We witness here the same presumption which in this case sees nothing but an obstacle to delivery in a most admirable provision for expanding the soft parts by means of a fluid wedge, to prepare them for the passage of the rigid skull; we witness the same rashness which subverts a physiological condition, under the influence of theories vain and arbitrary, as theories always are which are framed by empiricism in contempt of the laws of Nature.

I think also I am not unjust in surmising that there is a motive, not altogether unselfish as regards the practitioner, which has had its influence in establishing the false doctrine of interference. The hope which too often guides the hand of the meddlesome practitioner, which administers the nauseous potion or the Letheonic vapour, is a hope not directed to the welfare of the patient, but to save the time and promote the convenience of the attendant, or to invest him with a false popularity. I will denounce the motive as bad, and believe the hope is fallacious.

I think I have now said enough to caution you against improper interference in natural labour; and I do not fear that you will accuse me of placing a blind submissive confidence in nature, or of inculcating the opposite doctrine of inaction. In the course of the ensuing lectures you will be furnished with abundant proofs that a good insight into physiology and a firm reliance upon its foundation will supply the most suggestive and effectual principles of treatment. Puerperal fever, mania, convulsions, flooding, malposition, malformation, and many other complications surround the parturient couch, and remind us that there exists an obstetric pathology. Physiology itself requires the most vigilant watching. Many of the accidents I have referred to may arise at any time, and complicate the apparently most healthy labour. In order to give you a more exact idea of the dangers of childbirth, and to obviate the possible imputation that I have dwelt too much upon the physiology of labour to the exclusion of its pathology, let me arrest your attention on this table, exhibiting the comparative mortality in childbed in London and Edinburgh, which I have constructed with reference to another inquiry (see next page.)

It would lead us away from our present object to notice at length the numerous instructive lessons which this table suggests: let me point to a few of the more striking.

In the first place, you will see ample proof that all is not physiology in obstetrics; you will see that a large proportion of deaths occur in childbed; and in estimating the pathology, you will not stop at the tables of mortality. The accidents of childbirth lay the foundation of many diseases, which either are relieved by nature or art, or continue to afflict the patient through life, and ultimately destroy her by a process apparently so unconnected with parturition that the death is attributed to another cause.

2. I will ask you to observe, by a comparison between London and Edinburgh, how the mortality in childbed may vary in different localities. I am only enabled to extend this comparison over three years, for want of materials. The actual return of births is altogether wanting for Edinburgh, and we can only operate upon the number estimated for the population. You will perceive, however, that by carrying out the comparison of the deaths in childbed to the gross mortality, and to the aggregate population, you obtain results quite in harmony with those obtained from a simple comparison between the deaths in childbed to the births as returned for London and estimated for Edinburgh. I have further extended the comparison by re-estimating the births in Edinburgh, on the principle of allowing the same ratio of births to the gross mortality as in the corresponding years in London. Even on this estimation, which is undoubtedly strained in favour of Edinburgh, for the years 1847 and 1848, there is a marked excess of deaths in childbed for Edinburgh over London. It is worthy of remark that during 1846, especially in 1847, and yet more in 1848, the deaths in childbed in London were unusually numerous, owing to the prevalence of puerperal fever. For

TABLE SHOWING THE COMPARATIVE MORTALITY IN CHILDBED IN LONDON AND EDINBURGH.

	Number of Births and Deaths.		Proportion.		Gross Mortality.		Proportion of Deaths in Childbed to—		Total Population, 1841.		Proportion of Deaths in Childbed to—	
Year.	London.	Edinburgh.	London.	Edinb.	Lond.	Edinb.	London.	Edinb.	London.	Edinb.	London.	Edinb.
1846	Births registered, 69882. Deaths in childbed, 446.	Births estimated on population, 4382. Deaths in childbed registered, 42.	1 in 154	1 in 104	49475	4887	1 in 110	1 in 116	1948425	140241	1 in 4369	1 in 3339
		Births estimated on mortality, 6900.	—	1 in 164								
1847	Births registered, 69917. Deaths, 509.	Births on population, 4382. Deaths regist., 74.	1 in 139	1 in 59	60442	7026	1 in 118	1 in 97	—	—	1 in 3826	1 in 1895
		Births estimated on mortality, 8127.		1 in 109								
1848	Births registered, 70995. Deaths registered, 571 (including 321 for puerperal fevers).*	Births on population, 4382. Deaths registered, 63.	1 in 124	1 in 69	57628	5745	1 in 101	1 in 91	—	—	1 in 3412	1 in 2226
		Births on gross mortality, 7071.		1 in 112								

* In Edinburgh the deaths from puerperal fever are not distinguished.

several previous years the deaths in childbed had averaged one in 173 only.

Viewed, then, in every light, it stands in broad relief that the childbed mortality of Edinburgh is higher than that of London. Without stopping to inquire into the causes, I will simply remark that the *excess*, at least, of the Edinburgh mortality is owing to remediable causes, and affords ample scope for the exercise of the talents of its obstetric practitioners.

A similar remark will apply, though with less force, to ourselves. The London mortality is far too great. Let it be our duty to endeavour to bring it within the narrowest possible limits. The attendance of educated medical practitioners in every case of labour would snatch many victims from hæmorrhage, convulsions, exhaustion: and efficient sanitary measures would deprive puerperal fever of its terrible fatality. Shall I add, that a diligent and humble cultivation of obstetric science in the direction which I have advocated, and which is, I believe, the characteristic of English practice, will also contribute materially to bring about the object proposed? You see, then, that the field is wide enough to demand your most earnest attention and unremitting exertions.

Time warns me to conclude; but in concluding let me again urge upon you, with all the earnestness which the sense of my responsibility as a teacher inspires, to adopt as the guiding principle in your studies, and in your future practice, an enlightened faith in the teachings of physiology. In this faith you will find a never-failing beacon to direct you aright amid the depths of controversy, the shoals of empiricism, and the ever-shifting quicksands of scholastic dogmas. "*Nil frustrà Natura fecit*" may be your motto; and in adopting it, you need have no fear of surrendering your freedom of thought or of inquiry. Confidence in the supremacy of Nature is widely different to submission to the words of a human master. The one has been for ages past the great impediment to the advancement of knowledge—the other holds out the only safe light to lead you onward to the attainment of truth.

PREPARATIONS OF MANGANESE.

M. HANNON has investigated the therapeutic action of oxide, carbonate, malate, tartrate, phosphate, and ioduret of manganese in chlorosis, and has found that these salts may be given in doses somewhat similar to those of the preparations of iron, while their medicinal properties are regarded by M. Hannon as superior.—*Journal de Chimie Médicale*, Sept. 1849. χ

Reviews.

Aspects of Nature, in different Lands and different Climates; with Scientific Elucidations. By A. VON HUMBOLDT. Translated by Mrs. SABINE. In two volumes. Small 8vo. London: Longmans. 1849.

THIS work, which appears to be a kind of sequel to the Cosmos, published by the same author, has already gone through three editions in Germany, and now for the first time appears in an English dress. These "Aspects of Nature" are reminiscences of events which occurred, and localities which were visited by Von Humboldt, half a century ago. In every page are to be seen the thirst for scientific knowledge, the love of adventure, and the close scrutiny of nature under aspects then but little known to Europeans.

The book before us is, then, one of scientific interest: it is not a compilation of travels or adventures, but an examination of selected spots in new, and even now but little visited, localities. One singular feature cannot fail to strike the reader—namely, that the text occupies but a small portion of the whole work compared with the annotations. In fact, the author appears to have had in view the intention of correcting and improving his now ancient observations by the aid of modern scientific researches. It is, however, but justice to say, that the researches of Boussingault and Schomburgk have not rendered it necessary for him to alter materially the opinions which he had formed during his visit to the Andes in the early part of the present century.

The first volume contains chapters on the Steppes and Deserts, the Cataracts of the Orinoco, and the Nocturnal life of animals in the primeval forest. This last chapter is full of curious information. The second volume treats of the Physiognomy of Plants,—the Structure and Action of Volcanoes,—the Vital Force, or the Rhodian Genius (somewhat too transcendental for sober-minded English readers), and an account of the Plateau of Caxamarca. The titles of these chapters will show that the subjects are rather discursively treated: they are, in fact, the reminiscences of an aged scientific traveller,

whose feeling for the beauties of Nature at the advanced age of eighty, appears to be as strong as in youth.

Humboldt's acquaintance with modern scientific literature of all countries, whether general or periodical, is everywhere shown by the numerous quotations in this work. References to the *Comptes Rendus* are made up to within a very recent period.

As specimens of the style of the author, and the mode in which the translator has performed her task, we shall subjoin a few quotations:—

Dirt-eating propensities of mankind.—"In all tropical countries, human beings shew an extraordinary and almost irresistible desire to swallow earth; and not alkaline earths, which they might be supposed to crave to neutralize acid, but unctuous and strong-smelling clays. It is often necessary to confine children to prevent them from running out to eat earth immediately after a fall of rain. I have observed with astonishment the Indian women in the village of Banco on the Magdalena River, whilst engaged in shaping earthen vessels on the potter's wheel, put great lumps of clay into their mouths. The same thing was remarked at an earlier period by Gili. (Saggio di Storia Americana, T. ii. p. 311.) Wolves also eat earth, and especially clay, in winter. It would be important to examine carefully the excrements of animals and men that eat earth. With the exception of the Otomacs, individuals of all other races who indulge for any length of time the strange desire of earth-eating have their health injured by it. At the mission of San Borja, we saw the child of an Indian woman, who, his mother said, would hardly eat anything but earth. He was, however, wasted nearly to a skeleton.

"Why is it that in the temperate and cold zones this morbid craving for eating earth is so much more rare, and is almost entirely confined, when it is met with, to children and pregnant women; while in the tropics it would appear to be indigenous in all quarters of the globe? In Guinea the negroes eat a yellowish earth, which they call Caouac. When brought as slaves to the West Indies, they try to obtain a similar earth, and affirm that in their own country the habit never did them any harm. In the American Islands they were made ill by it, and it was forbidden in consequence; but a kind of earth (un tuf rouge jaunâtre) was, in 1751, sold secretly in the market in Martinique." (Vol. i. p. 194-5.)

The Curare or Woorara poison.—"The Otomacs often poison the thumb-nail with Curare. A mere scratch of the nail is deadly if the curare mixes with the blood. We obtained specimens of the climbing plant, from the juice of which the curare is prepared, at Esmeralda on the Upper Orinoco, but unfortunately we did not find it in blossom. Judging by its physiognomy it appears to be related to Strychnos (Rel. hist. T. ii. p. 547-556). Since the notice in the work referred to of the curare or ourari (previously mentioned by Raleigh, both as a plant and as a poison), the brothers Robert and Richard Schomburgk have done much towards making us accurately acquainted with the nature and preparation of this substance, of which I was the first to bring a considerable quantity to Europe. Richard Schomburgk found the plant in blossom in Guiana on the banks of the Pomeroon and the Sururu in the territory of the Caribs, who are not, however, acquainted with the manner of preparing the poison. His instructive work (Reisen in Britisch-Guiana, Th. i. S. 441-461), contains the chemical analysis of the juice of the Strychnos toxifera, which, notwithstanding its name and its organic structure, does not contain, according to Boussingault, any trace of strychnine. Virchou and Münter's interesting physiological experiments make it probable that the curare or ourari poison does not kill by mere external absorption, but only when absorbed by living animal substance of which the continuity has been severed (*i. e.* which has been wounded slightly); that it does not belong to the class of tetanic poisons; and that its particular effect is to take away the power of voluntary muscular movement, whilst the involuntary functions of the heart and intestines still continue. Compare, also, the older chemical analysis of Boussingault, in the Annales de Chimie et de Physique, T. xxxix. 1828, p. 24-37." (Vol. i. p. 203-204.)

"*Springs of fresh water at sea.*—On the southern coast of the island of Cuba, southwest of the Port of Batabano in the gulf of Xagua, a few miles from the coast, springs of fresh water gush from the bed of the ocean probably under the influence of hydrostatic pressure, and rise through the midst of the salt water. They issue forth with such force that boats are cautious in approaching this locality, which has an ill repute on account of the high cross sea thus caused. Trading vessels sailing along the coast and not disposed to land, sometimes visit these springs to take in a supply of fresh water, which is thus obtained in the open sea. The greater the depth from which the water is taken, the fresher it is found to be. The "river cow," Trichecus manati, which does not remain habitually in salt water, is often killed here. This remarkable phenomenon of fresh springs issuing from the sea has been most carefully exa-

mined by a friend of mine, Don Francisco Lemaur, who made a trigonometrical survey of the Bay of Xagua. I have been farther to the South in the group of islands called the Jardines del Rey (the King's Gardens), making astronomical observations for latitude and longitude; but I have never been at Xagua itself."

Dormant life in Infusoria.—"What has been called the revivification of Rotiferæ, since observations have been more exact and have had to undergo stricter criticism, has been the subject of much animated discussion. Baker affirmed that he had resuscitated, in 1771, paste-eels which Needham had given him in 1744! Franz Bauer saw his Vibrio tritici, which had been dried up for four years, move again on being moistened. An extremely careful and experienced observer, Doyère, in his Mémoire sur les Tardigrades, et sur leur propriété de revenir à la vie (1842), draws from his own fine experiments the following conclusions:—Rotiferæ come to life, *i. e.* pass from a motionless state to a state of motion, after having been exposed to temperatures of 19°.2 Reaumur below, and 36° Reaumur above, the freezing point; *i. e.* from 11°.2 to 113°.0 Fah. They preserve the capability of apparent revivification, in *dry sand*, up to 56°.4 R. (158°.9 Fah.); but they lose it, and cannot be excited afresh, if heated in *moist sand* to 44° only (131°.0 Fah.) Doyère, p. 119. The possibility of revivification or reanimation is not prevented by their being placed for twenty-eight days in barometer tubes in vacuo, or even by the application of chloride of lime or sulphuric acid (pp. 130-133). Doyère has also seen the rotiferæ come to life again very slowly after being dried without sand (desséchés à nu), which Spallanzani had denied (pp. 117 and 129). 'Toute dessiccation faite à la température ordinaire pourroit souffrir des objections auxquelles l'emploi du vide sec n'eût peut-être pas complètement repondu: mais en voyant les Tardigrades périr irrévocablement à une température de 44°, si leurs tissus sont pénétrés d'eau, tandis que desséchés ils supportent sans périr une chaleur qu'on peut évaluer à 96° Reaumur, on doit être disposé à admettre que la revivification n'a dans l'animal d'autre condition que l'intégrité de composition et de connexions organiques.' In the same way, in the vegetable kingdom, the sporules of cryptogamia, which Kunth compares to the propagation of certain phænogamous plants by buds (bulbillæ), retain their germinating power in the highest temperatures. According to the most recent experiments of Payen, the sporules of a minute fungus (Oïdium aurantiacum), which covers the crumb of bread with a reddish feathery coating, do not lose their power of germination by being exposed for half an hour in closed tubes to a temperature of from 67° to 78° Reaumur (182°.75 to 207°.5 Fah.), before being strewed on fresh perfectly unspoilt dough. May not the newly discovered monad (Monas prodigiosa), which causes blood-like spots on mealy substances, have been mingled with this fungus?

"Ehrenberg, in his great work on Infusoria (S. 492-496), has given the most complete history of all the investigations which have taken place on what is called the revivification of rotiferæ. He believes that, in spite of all the means of desiccation employed, the organization-fluid still remains in the apparently dead animal. He contests the hypothesis of 'latent life;' death, he says, is not 'life latent, but the want of life.'

* * * * * *

"Thus we find an annual enfeeblement of certain vital functions in many and very different classes of animals, and, what is particularly striking, without the same phenomena being presented by other living creatures nearly allied to them, and belonging to the same family. The northern glutton (Gulo), though allied to the badger (Meles), does not, like this animal, sleep during the winter; whereas, according to Cuvier's remark, 'a Myoxus (dormouse) of Senegal (Myoxus coupeii), which could never have known winter-sleep in his tropical home, being brought to Europe fell asleep the first year on the setting in of winter.' This torpidity or enfeeblement of the vital functions and vital activity passes through several gradations, according as it extends to the processes of nutrition, respiration, and muscular motion, or to depression of the activity of the brain and nervous system. The winter-sleep of the solitary bears and of the badger is not accompanied by any rigidity, and hence the reawakening of these animals is so easy, and, as was often related to me in Siberia, so dangerous to the hunters and country people. The first recognition of the gradation and connection of these phenomena leads us up to what has been called the 'vita minima' of the microscopic organisms, which, occasionally with green ovaries and undergoing the process of spontaneous division, fall from the clouds in the Atlantic sand rain. The apparent revivification of rotiferæ, as well as of the siliceous-shelled infusoria, is only the renewal of long-enfeebled vital functions,—a state of vitality which was never entirely extinct, and which is fanned into a fresh flame, or excited anew, by the appropriate stimulus. Physiological phenomena can only be comprehended by being traced throughout the entire series of analogous modifications." (Vol. ii. p. 45-51.)

Discovery of Cinchona as a febrifuge.—"The story of the natives having learnt the virtues of the Cinchona from the lions who 'cure themselves of intermittent fevers by

gnawing the bark of the China (or Quina) trees,'—(Hist. de l'Acad. des Sciences, année 1738, Paris, 1740, p. 233),—appears to be entirely of European origin, and nothing but a monkish fable. Nothing is known in the New Continent of the 'Lion's fever,' for the large so-called American Lion (Felis concolor), and the small mountain Lion (Puma), whose foot-marks I have seen on the snow, are never tamed and made the subjects of observation; nor are the different species of Felinæ in either continent accustomed to gnaw the bark of trees. The name of Countess's Powder (Pulvis Comitissæ), occasioned by the remedy having been distributed by the Countess of Chinchon, was afterwards changed to that of Cardinal's or Jesuit's powder, because Cardinal de Lugo, Procurator-General of the order of the Jesuits, spread the knowledge of this valuable remedy during a journey through France, and recommended it to Cardinal Mazarin the more urgently, as the brethren of the order were beginning to prosecute a lucrative trade in South American Quina-bark which they obtained through their missionaries. It is hardly necessary to remark, that in the long controversy which ensued respecting the good or bad effects of the fever bark, the protestant physicians sometimes permitted themselves to be influenced by religious intolerance and dislike of the Jesuits." (p. 306.)

We cannot close this notice without praising the work of the translator. A few Anglo-German idioms appear occasionally, but in no case is the meaning of the author rendered obscure. The weights, measures, magnitudes, and degrees, are also translated into their English equivalents.

Demonstrations of Anatomy; being a Guide to the Knowledge of the Human Body by Dissection. By GEORGE VINER ELLIS. Part 2, 2nd Edition. 8vo. London: Taylor and Walton. 1849.

THE first part of these Demonstrations was noticed in our 43rd volume, page 164. The second and concluding part was announced to be published in October, and it is creditable to author and publisher that this promise has been strictly kept, and that the work in a complete state is ready for the student of anatomy at the commencement of another medical session. As the work has reached a second edition, its merits as a dissecting manual are already pretty extensively known. We shall only remark, for the information of those not yet provided with a dissecting-room companion, that in the examination of a region the author directs the attention of the student "to its limits, to the superficial prominences of bone or muscle, and to the impressions that point out the situation of subjacent vessels. The different strata interposed between the surface and the bones are next examined in succession with reference particularly to the natural position of the several objects and their connections one with another, so that they may be observed in much the same order as they would be met with in an operation of surgery. The anatomical description of the whole is likewise arranged in conformity with the mode of dissection, and each blood-vessel, nerve, or other structure, is described only to such an extent as it may be laid bare in the region under examination." With this extract from the preface, the correctness of which is borne out by a reference to the text, the student will be able to form a judgment of the plan of the work. The marginal references will be found of the greatest assistance, and in addition there is a copious index.

The Results of all the Operations for the Extirpation of Diseased Ovaria by the Large Incision, from Sept. 12, 1842, *to the present time: to which is appended an Essay on the Diagnosis, Prognosis, and Treatment of Ovarian Diseases.* By CHARLES CLAY, M.D. &c. &c. 8vo. pp. 56. Manchester: Irwin. 1848.

THIS work is a reprint, from the *Obstetric Record*, of Dr. Clay's defence of his representations of the success of his operations for the extirpation of ovarian disease by the large incision. As we are not disposed to espouse either side of the question in its present state, we shall merely act the part of lookers-on, and report accordingly. We find, out of forty operative cases occurring in Dr. Clay's practice, that fourteen have proved fatal, and twenty-six have been successful. These cases include only those operated upon by Dr. Clay; the results of the experience of other practitioners are not taken into account, as we expected from the title-page. We must here observe, "*Sub judice lis est,*" and more facts are yet wanting for its determination.

We do not find in the volume before us the appended essay "on the diagnosis, prognosis, and treatment of ovarian diseases," of which mention is made on the title-page.

On the Extraction of Teeth; with an account of a new and less painful mode of operating. By HENRY GILBERT, M.R.C.S.E. Surgeon-Dentist, &c. Pamphlet, 8vo. London: Renshaw. 1849.

THIS pamphlet consists of a brief outline of the anatomy, physiology, and pathology of the teeth, with the author's views in reference to the several kinds of instruments employed in the extraction of teeth, and followed by an account of a novel principle of extraction, which consists in the adaptation to the ordinary chair of an external fulcrum, to enable the dentist to extract, with the aid of the forceps or elevator, a tooth or stump by a *perpendicular* traction.

We have examined this chair, with its moveable fulcrum, and allow that the whole forms a most ingenious contrivance. If its employment should prove to be free from any risk of damage to the teeth adjoining those to be extracted (as its inventor asserts), we admit that it may be a useful invention. We have not ourselves had personal experience of its alleged advantages, but in the absence thereof are disposed to admit to the full the eulogium of our witty contemporary *Punch*, who, by the mouth of "Mr. Brown," declares that Mr. Gilbert "removes a grinder with so little pain that all the world should be made aware of him."

AMERICAN GRADUATES OF TEN YEARS' STANDING.

THE fifth clause of the "Act to amend the Act of Incorporation of the Profession of Lower Canada," enables American graduates, who have practised in Lower Canada for a period of not less than ten years, to apply for a license, which they may obtain without an examination. They require to afford proof of ten years' such practice, to exhibit their diploma, and to produce testimonials of good moral character. This clause of the Act ceases to have force after one year from the passing of the Act. As it is a matter of considerable importance, we recommend to all, who are thus influenced by the Act, to avail themselves of its provisions, at the ensuing meeting of the Board. — *British American Journal.*

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 13, 1849.

DR. ADDISON, THE PRESIDENT, IN THE CHAIR.

History of a Case of "Foreign Body in the Right Bronchus;" with Remarks. By JOHN G. FORBES, M.R.C.S., Surgeon to the Western General Dispensary.

THE author introduced his case by some remarks on the difference of opinion which prevails regarding the propriety of attempting the removal of a foreign body when impacted in a bronchial tube. The nature, size, and weight, of the offending substance, and the age and previous state of health of the patient, he regards as important elements in the consideration of this question. The practicability of the operation is proved by the success which has attended its attempt in some instances, of which class those narrated by Mr. Liston are referred to. The difficulty of determining the exact position of the foreign body is an argument against the operation. If the diagnosis be clearly established, and there seem but small probability of intruding substance being expectorated, on account of its nature and position, the author is of opinion that an early attempt should be made to extract it.

The subject of the present case, Mrs. W., æt. 46, applied at the Western General Dispensary, on May 11th, 1849, stating that, on the previous day, whilst eating some broth, a small piece of solid matter, which she believed to be "bone covered with gristle," passed into the windpipe. She was immediately seized with spasmodic cough and threatened suffocation, and it was some minutes before she recovered herself. Twenty-four hours after the accident her voice was hoarse; respiration slow and wheezing; there was a constant short cough, and pain at the upper part of the chest. On the right side the natural vesicular murmur was scarcely audible, and a prolonged and peculiar rhonchus was heard throughout the lung, but most distinctly over the point, to which the pain was referred. On the evening of the third day, the patient was affected with considerable constitutional disturbance, ushered in by a long shivering fit.

On the fifth day (May 14th), when the author visited his patient, he was accompanied by Dr. M'Intyre, Mr. Arnott, and Mr. Anderson. A remission of symptoms had suddenly taken place, and it was decided that an operation should not then be performed.

On the 16th the cooing sound had degenerated into a peculiar whiff or puff. The expectoration was more copious, and the cough troublesome, and aggravated by the slightest exertion or excitement. Mr. Arnott again saw the patient, in consultation with the author and his colleagues; but, as the symptoms of the patient were not very urgent, and it was very uncertain exactly where the foreign body was fixed, it was thought prudent not to operate.

During the ensuing fortnight the symptoms were—disturbed nights, paroxysms of fever, profuse night sweats, &c.; and the cough assumed a more paroxysmal character. On June 1st the symptoms were further aggravated, the expectoration becoming more abundant. After this date, until June 21st, there was considerable amendment in the general condition of the patient; but on the 22d the expectoration assumed a dingy appearance and offensive odour; the breathing and pulse were hurried. On the 25th the fetid purulent expectoration was increased, and the constitutional disturbance further aggravated; and from this time she never rallied, but died on the 5th of July.

Autopsy.—The carotid artery of the right side was observed to take an abnormal course, running obliquely upwards and to the right side in front of the trachea. The right lung filled its own side of the chest, and in its inferior two-thirds was adherent to the ribs and diaphragm; and close upon the latter, in front, there was a pleuritic abscess, the size of the palm of the hand. The foreign body, a small piece of bone, weighing, when dry, three grains and a half, partly rough and sharp, and in part smooth, was found firmly impacted in the orifice of the third branch given off from the bronchus, which passed into the middle lobe,—a circumstance which accounted for the fact which had been noticed during life, that air passed with comparative freedom into the upper part of the affected lung. The lower two-thirds of the same lung were of an ashy slate colour, of dense consistence, very offensive odour, and infiltrated with a purulent fluid. That part of the upper lobe which was supplied with air appeared healthy.

The author concluded by directing attention to the risk which would have been incurred of wounding the right carotid artery had an operation been attempted.

MEDICAL SOCIETY OF LONDON.

Monday, Nov. 5, 1849.

Mr. Hird, President.

Foreign Body in the Colon.

Mr. Pilcher related the following case:—The patient was a servant woman, fifty-six years of age, and to whom he was called on Sunday night. She was suffering from constipation of the bowels of three days' duration. The abdomen was much distended, but she had been somewhat relieved of pain by the application of leeches, fomentations, &c. Drastic purgatives had been employed to some extent, as also enemata, but without relieving the bowels. A tumor was discovered on the right side of the abdomen, moveable on pressure, but there was no pain; vomiting, which had existed, had now ceased; there was no hernia. Small doses of blue-pill and henbane were administered, and an injection thrown up as high as possible. No treatment proved of avail, and she died on the Tuesday. After death the omentum was found very slightly adherent to the large and small intestines, which were found distended by fluid and gas. In the transverse arch of the colon was found a hard firm lump, in the middle of which was a plum-stone, surrounded by thickened and hardened fæces. Some ulcerated openings were near, but they did not communicate with the cavity of the peritonæum, being closed by omentum and peritonæum. The ileo-colic valve was healthy, the lower part of the ileum inflamed. It appeared, from the history of the case, that the stone must have been swallowed about a month before. The day after she had been seized with pain and sickness, which were removed by purgatives; at intervals of a few days two other attacks of pain, sickness, and constipation occurred, which were removed, and she remained well for some days before the fatal seizure took place. Interesting questions might be discussed as to the influence the stone had exerted in all the phenomena observed in the case.

Monday, November 12.

Dr. Downing read a paper on epidemic cholera, for the purpose of proving that the proximate cause of this visitation is spasm of organs essential to life. That it should be regarded and treated as a spasmodic affection, not merely of the external voluntary muscles, but of the internal involuntary, and vital also. His opinion was deduced—1st. From the premonitory symptoms which indicate spasm of the vital organs; these are chiefly sensations resembling the effects of fear, followed by unequivocal symptoms of muscular tension. 2d. From the mode of seizure, which is sudden, and from the suddenness of reaction. 3d. From the phenomena of the attack, cramp of the stomach, spasm of the bowels, constriction or spasm of the gall-ducts, shallowness of breathing, and anxiety about the heart, spasm of the voluntary muscles. 4th. From the absence of constant morbid appearances on dissection, no one condition being always

present, leading to the conclusion that on it depended the phenomena; the derangement is functional-spasmodic. 5th. From the extreme irritability of the muscular fibre after death. 6th. From the observed effect of the more active remedies—bloodletting, opium, chloroform. 7th. The same arguments which are employed to prove true asthma a spasmodic affection may be applied to epidemic cholera. Assuming this view of the subject to be correct, Dr. Downing considered that a clue was afforded to certain hitherto obscure and unintelligible points of the history of cholera, and that some light was thrown upon its origin and progress. It would obey the same laws as other spasmodic affections. In treating the disease, Dr. Downing considered the chief indication was to allay the morbid excitement of the nervous system leading to spasm. Although, therefore, far from advocating any one specific remedy for the complaint, he suggested the employment of large doses of Scheele's hydrocyanic acid in the stage of collapse. He had found it allay, almost immediately, all pain and external spasm; the surface soon became warm and dry, the heart and arteries pulsated more freely, and bile appeared in the evacuations. He had used it with the happiest effect in a number of instances, and concluded by reading a letter from Mr. Shea, of the Blackfriars' Road, who had treated more than one hundred cases with this remedy during the present epidemic, and found it superior to all others.

SOUTH LONDON MEDICAL SOCIETY.

At a recent meeting of this Society the following paper was read:—

On the Use and Advantages of Opium in the Practice of Obstetricy. By John C. W. Lever, M.D.

Perhaps, of all the medicines which our well-endowed Materia Medica contains, there is none more to be valued than opium. Although physiologists may differ as to its mode of action, still both physicians and surgeons will admit that it possesses the power of alleviating anguish, procuring sleep, arresting disease, delaying death. It will be my object to prove this evening that opium should be as highly prized by the midwifery attendant for its therapeutical value in the practice of obstetricy. But so extensive is the subject, that I must of necessity, for lack of time, and from dread of wearying, direct your attention but to a part of the question. I might treat of its value, in the remedy and cure of some of those signs and symptoms, but which when severe are designated diseases, that attend the condition of pregnancy. I might direct your attention to its value in the relief and cure of those maladies, some trivial, many grave, that are wont to develope themselves in the puerperal chamber; but I would rather, on this occasion, speak of the employment and value of opium during parturition; and this division of the subject I have the rather selected because there is much difference in the opinions and in the practice of many gentlemen with whom I have had the pleasure to converse.

And firstly, let me investigate how far it is applicable in cases of threatened abortion. Abortion sometimes depends upon the mother, sometimes upon the condition of the ovum itself. The maternal causes of abortion are, for the most part, physical or mental; we must add such as are accidental, those which take place from habit, and those which occur from the effects of poison, as syphilis; but abortion most generally occurs from fœtal disease or imperfection; so that the premature emptying the uterus is but an effort of Nature to get rid of that which she cannot perfect. In the management of cases of threatened abortion, it is my rule, if possible, to get a thorough knowledge of the immediate or exciting cause of the hæmorrhage or pain, or both; secondly, before using opium, to ascertain the state of the os uteri, and especially whether the anterior part of the neck has lost its plumpness and firmness, and has become soft and baggy. If with the discharge we have a patent state of the os uteri, and if the neck be soft and loose, the exhibition of opium will do harm, by retarding the emptying of the uterus, which must sooner or later take place. But while I do not advocate the use of this drug under the circumstances related, I can speak loudly in its praise after the abortion has occurred, especially if such have been attended with a large loss of blood: it will allay excitement, tranquillize the circulation, and procure sleep. These remarks, however, do not altogether apply to those cases which menace from accident, or from mental causes, or those which may be said to be due to habit. In these, with the application of cold, perfect quietude, and unstimulating diet, I have known the exhibition of opium by mouth—or, what I prefer, a cold starch injection, with opium thrown into the bowel, and repeated every night or more often, according to existing circumstances—followed by the best results.

But the value of opium is still more clearly exhibited when it is administered to alleviate those pains which precede the establishment of labour in the latter weeks or months of gestation. Many a patient, by its agency, has been carried on to the full end of term who but for it would have pre-

maturely parted with her offspring. I had a lady under my care who, six weeks from the completion of her full term, fell on her back. The liquor amnii was evacuated. In addition to absolute quietude, she took opium at irregular intervals till the end of the ninth month, when a living child was born; and this to me was the more satisfactory as she had on two previous occasions been prematurely confined, although opium had been administered, but with a sparing hand.

Further, we find this drug of great value in certain varieties of natural labour. For instance, at the commencement there may be irregular and spasmodic pains. They are recognised by their acuteness, by the want of consentaneous action in the uterine fibres; some portion of the uterus during their continuance is hard and contracted, the other portion is soft and yielding; there is no distinct or regular interval of time between the occurrence of pain; and, if untreated or unrelieved, the strength of the patient is exhausted before the establishment of true labour pains; or the child, which at the commencement presented normally with the head, has its position changed to that of the shoulder, by reason of the uterus contracting on one side and forcing its contents over to the uncontracting or yielding side. In such a case the utility and value of opium is most marked. It may be exhibited by mouth or *per anum*. It will calm the spasm, subdue irregular action, alleviate pain, procure sleep; and after this, true and regular uterine action will be established. Manifold are the instances of its value I have witnessed in such cases.

Not unfrequently in women who marry late in life, and in those who marry very young, do we find the liquor amnii pass away very early,—in fact, before the os uteri has commenced to dilate: this may occur spontaneously, or be the result of violence. At all times this is to be regretted; for, in addition to our losing the efficiency of the bag of water to prepare the way for the passage of the child, the fœtus is brought into close contact with the uterus, which is therefore more strongly stimulated; the head is brought into direct contact with the os internum, the most sensitive part of the uterus; the labour is more painful, and the birth of a living child is rendered more doubtful. Here the cautious and judicious exhibition of opium controls hyper-uterine action, alleviates pain, and gives a better security for the welfare of the child.

Again, in practice we find women who have suffered in early or unmarried life from one of the forms of dysmenorrhœa, when pregnant and in labour, with the os uteri thin, sharp, knife-like, so that its edge is scarcely to be felt,—in fact, is often overlooked by the unpractised finger. The sufferings of the patient are intense: the dilating stage of labour is protracted; and, if untreated or unrelieved, by the time the os uteri is dilated nature is exhausted, uterine effort fails, and such a case is frequently terminated either by the forceps or by craniotomy. In most cases these evils may be averted by the timely employment of opium, and the best mode of securing its good office is in the form of enema.

Further, we occasionally find the first stage of labour rendered tedious by a hardened undilatable condition of the os uteri in women who have suffered from chronic inflammation of the neck of the uterus, or those who have worn mechanical contrivances for the purpose of supporting the viscus, and in those who, from disease imaginary or real, have been submitted to the influence of some escharotic at the present day by far too commonly practised. This condition of the os uteri needs no description: the sufferings of the patient are excessive and protracted, and, if unrelieved, may be followed by results serious to mother and fatal to child. In addition to blood-letting, applicable to some cases, to the warm bath, of immense value, to the exhibition of antimony, and this is of the greatest service, we find that when the latter has been exhibited, and has produced its desired results, relaxation of the os uteri, and increase of discharge, that opium given in a full dose will render such permanent, and thus prove a most valuable agent in completing a safe delivery. Opium has been recommended most strongly in cases where the os uteri is callous; but if the callosity depends upon previous injury, or is the result of disease, its value, in my opinion, depends upon its power to curb uterine action until vaginal interference removes the obstruction to the passage of the fœtus. But there is another condition of os uteri in which opium acts, and like a charm: in women who have suffered from irritable uterus where the vagina is generally dry and hot, although not over-sensitive; but the moment the examining finger touches the os uteri, the patient shrieks out, shrinks from the attendant, and by her cries and motions proves the suffering she endures. In addition to subsidiary measures, as the warm bath, the injection of linseed-tea into the vagina, great benefit is to be derived from the use of opium, either by the mouth or by the rectum; the latter mode of employment is the one I prefer. Further, in cases of transverse presentation where it is necessary manually to interfere to bring the long axis of the child to correspond with the long axis of the uterus, we may assist in relaxing the os uteri, and abate uterine contraction, by the exhibition of a full opiate, but I am no advocate for repeated doses.

By such treatment the patient becomes narcotized, uterine efforts arrested, and at the time we need contraction to complete the delivery and prevent hæmorrhage, nature fails, and our patient is placed in a situation of extreme peril.

Again, in convulsions, especially those of the hysterical form, occurring as they do more frequently during pregnancy than during labour, opium is a valuable remedy. This form of convulsions, evidencing itself as it does most frequently during gestation, is readily recognised by the predisposition of the patient, often induced by over fatigue, mental anxiety, irregularity in diet, &c., preceded by intolerance of noise, sleep short and interrupted, twitchings, startings, copious flow of limpid urine, oppression at the chest, difficulty of breathing, globus pain at the upper part or back of the head; and when the convulsions manifest themselves the larger muscles are more often affected than the smaller; here we find after the paroxysm is over that a mild opiate soothes the patient, allays the twitching, calms the respiration, and procures sound and refreshing sleep.

Secondly, in the anæmic form of convulsions, associated as they not unfrequently are with large losses of blood, where the face is pale, the eyes glazy, the features shrunken, the countenance betokening exhaustion, the lips colourless, the skin cool, the chest heaving, the breathing laboured, the pulse small, quick, and irritable, with noise in the ears, and pain or weight at the top of the head, where there is sleeplessness or restlessness, partial amaurosis, strabismus, and sometimes delirium; while close attention is paid to the position of the patient, especially to the position of the head; while stimulants are administered with judgment; while the contraction of the uterus is secured, opium will be found to act like a charm. Again, in genuine eclampsia, where vascular excitement and relaxation of the soft parts have been accomplished by bleeding, purgation, and tartarised antimony, and where the repetition of the fits seems to depend upon irritation, I have seen them occasionally checked by the administration of a full opiate. Labour also may be complicated with tumor; here opium will allay inordinate action until we employ those manual or surgical means which are necessary to remove the obstructing cause to delivery. It is true opium cannot take away the mechanical obstacle, but it may and will lessen inordinate uterine action; for in practice we find that if there be any difficulty in the passage of the child the uterus is stimulated to undue action, and if such be not allayed, or be overlooked, rupture of the viscus itself may take place. This leads me to speak of the efficacy of opium in the treatment of those grave cases where the uterus or vagina is lacerated, or the bladder or diaphragm have ruptured. The two latter lesions are indeed to be regarded as all but hopeless; but not the former, for I have seen cases treated by the administration of full doses of opium, and then repeated at varying intervals for several days, and then terminating successfully. To one woman I was called when there was a band in the vagina, the result of a previous delivery; in this case the laceration was so extensive that the hand could be passed into the abdomen. Although the patient appeared to be dying, although the last rites of her Church were administered to her, she rallied, recovered, and is still alive. Soon after her convalescence she had the ill fortune to lose her husband, but she also had the good fortune not again to be pregnant. But the value of opium is perhaps most emphatically demonstrated when exhibited after floodings, whether such occur in the earlier months of gestation, or in the latter, depending either upon the position of the placenta or its partial separation, whether the loss take place after the birth of the child and the casting or throwing off the placenta; whether this be retained by irregular contraction or morbid adhesion; or whether the hæmorrhage take place after the complete evacuation of the uterus. In these cases, where there is great exhaustion, alarming syncope, great irritability, severe vomiting, and plain, evident, and undeniable indications of great depression of the sanguiferous and nervous systems, or to use the graphic language of Dr. W. Griffin, "When the countenance is sunk, the eye hollow and glassy, the lips blanched, the skin cold, and the whole person corpse-like; when the pulse is all but gone at the wrist; when the beat of the heart is scarcely perceptible, and stimulants, even brandy, are vomited or useless, opium will act like magic, and save the patient from an untimely grave: but to do good it must be exhibited in full doses of one to two drachms of the tincture, or three to four grains, repeating two grains every half hour or hour until the pulse becomes distinct, the breathing calm, and the jactitation allayed. Whatever may be the "ratio medendi," whether the congestion produced in the brain be what is necessary to maintain the proper tension of the cerebral vessels, whether it restore the loss of nervous power in the brain itself, is still a point "sub judice;" but no man of much obstetric experience will deny its value under the circumstances thus detailed. I could illustrate its efficiency by the recital of several cases of success where a patient appeared to be on the very confines of eternity; and in the subsequent constitutional freatment its exhibition must not be forgotten: it will lessen

exhaustion, diminish restlessness, allay vomiting, calm gloomy forebodings, and procure sleep. I say nothing of its employment in instrumental delivery, for so various are the causes that may render interference necessary, that to go through the whole subject, and select the cases fitted for its agency, would be in this society not only wearisome but unnecessary.

I have thus, sir, as concisely as possible, brought before the Society a subject of great interest to myself, and I think important for the grave consideration of my co-members. My motive is single: it is my desire to have the opinions of those who have had more experience than myself: for as "iron sharpeneth iron," so I trust the scintillations that may be given out by the discussion of this evening, will not be unattended with practical good.

Medical Trials and Inquests.

MEDICAL EVIDENCE IN THE CASE OF ALLEGED DEATH FROM CHLOROFORM AT LEEDS.

We last week gave a short account of the inquest in this case. We now give an authentic report of the medical evidence at the inquest touching the cause of death.

Robert Mitchell, an omnibus and cab driver, 43 years of age, died at his house, in Hall's Court, Hunslet Lane, Leeds, on the 25th October, and was interred two days afterwards. The deceased had been a man of intemperate habits, and last year he had a serious attack of delirium tremens, from which he recovered under the treatment of Mr. Joseph Teale, surgeon, of this town. Subsequently he was induced to abstain from the use of all intoxicating drinks; but unfortunately for himself, about a fortnight before his death, he had again reverted to his former bad habits, and by excessive drinking brought on another attack of delirium tremens, for which he was again treated on the 20th of October, by Mr. Joseph Teale, who attended him up to the time of his death.

Mr. Joseph Teale, surgeon, said—I first saw the deceased on the Saturday before his death. It was the 20th of October. He called upon me with his wife. He was at that time under symptoms of delirium tremens. I prescribed for him, and saw him again on the Monday, when he called upon me. At that time he was still under symptoms of delirium tremens, but not worse. I gave him medicine, and saw him on the day following at his own home. He was in bed, and appeared to be worse; he talked incoherently, but sensibly on some subjects. I did not then think it necessary to put him under any restraint. I saw him again on the morning following; he was in bed still, but getting more into a state of confirmed delirium tremens. I did not think it necessary to put him under restraint, but wished him to be watched, and told them to have strong men in the house in case he should become worse. I saw him again on the Thursday morning, when he was in some respects worse; there was less power in the pulse, but he was perfectly manageable. I saw him again at the Court House, at about a quarter to eight in the evening; he was then very much exhausted, and I ordered him home. He undressed himself with my assistance, and got into bed with a little persuasion; he got into bed under an impulse. He wanted to take charge of his horses first. When he got into bed I found the pulse so exceedingly weak, that I feared sinking was taking place. No doubt this feebleness had been brought on by the previous attack, and finding also that other treatment had completely failed, and that he was sinking rapidly, I determined to apply chloroform. I had previously applied a blister to the back of his neck, and had given him opium and morphia. As these remedies had failed in doing good, and having had conversation with other medical men, I decided upon putting him under the influence of chloroform. The man appeared to me to be sinking, and I was afraid to follow the opium treatment further; therefore I applied the chloroform. There are different strengths of chloroform. What I used was from Dublin. I poured a teaspoonful, about a drachm, upon a towel doubled in four, and applied it by degrees to the nose and mouth. This application would continue about two minutes. The immediate effect was to tranquillize the deceased, and the pulse gradually improved. This continued four or five minutes; then I waited a little, and found the man getting more violent; and as his violence increased, his pulse decreased. He had a spasmodic affection, or twitching of the face, neck, and arms, which would be produced by the chloroform. The pulse got weaker as he became more violent, and I applied the same quantity of chloroform again, which produced the same results. I waited until the effect of the second application had been produced, and then raised him up in bed, and he swallowed some brandy and water. Between the first and second application of chloroform we applied the handcuffs, for he was so very violent, and being a strong powerful man we could not hold him. I think I did not apply it a third time; the second might be applied at two

little intervals. I was with him three quarters of an hour at his own house; he was quieter when I left him, and the pulse stronger. I did not at that time apprehend his immediate death; but in delirium tremens they often die from syncope. I left directions for him to be watched closely, promising to see him again in two hours, but in the meantime he died. It is customary to administer chloroform in such cases, and it is recommended by the faculty; there are several cases in the books, and all successful ones. In cases where there is a tendency to diseased brain or apoplexy, and the treatment of opium or morphia cannot be carried further, then we administer chloroform.

By a JUROR.—I have seen chloroform applied locally in experiments, but not to the human subject in delirium tremens.

By the CORONER.—I applied it by degrees, putting it closer and closer, till it produced the effect I wished.

Mr. SAMUEL SMITH, senior surgeon of the Leeds Infirmary, said—Last evening, in conjunction with Mr. Price, I examined the body of this man. We first noticed that the face and the head were enormously swollen and black. There were vesications from the separation of the cuticle, on the chest, arms, body, and lower extremities, and considerable blackness on several parts, indicating that decomposition was going on. We divided the integuments on the head, and separated the scalp from the skull, in doing which a large quantity of dark serum was discharged. The skull-cap was removed, and we then noticed that the brain was much decomposed, pulpy, and brown, particularly towards the base; there was no unnatural appearance in the lateral ventricle of the brain. We then opened the chest. We found the lungs dark-coloured, congested, and collapsed; the superior lobe of the right lung had an old adhesion to the pleura, and in the left lung there was a more recent adhesion. We then opened the pericardium, or bag, containing the heart. There was no effusion in the pericardium; the heart was small for a man of that bulk, flaccid, pale, and empty. The coating of the heart and the valves of the great vessels were in a natural state. We then opened the windpipe. The mucous membrane of the trachea and larynx was of a reddish brown, and highly congested. This we traced down to a division of each side of the chest. We then examined the contents of the abdomen. We found the liver in a healthy condition, with the gall-bladder full of bile. The stomach was empty, and we noticed no unnatural appearance in it. The remaining abdominal viscera appeared to be in a healthy state, and loaded with fat. I could not give an opinion as to the cause of death from this appearance, in consequence of the state of the body preventing a more minute examination, unless I combine these appearances with what I have heard of the case. There was nothing we could see on the brain to account for death; no effusion, no clot of blood, no rupture; but then we could not, in the state of the brain, make a sufficiently minute examination. The state of the trachea and lungs, and the collapsed state of the heart, I should attribute to the combined effects of delirium tremens and chloroform. I should not have expected to have found the lungs and mucous membrane of the trachea in this state from delirium tremens. Having heard all the evidence, I confess myself unable to give a distinct and decided opinion on the case; but I think it probable the appearance of the lungs and of the mucous membrane of the trachea may have been caused by the inhalation of chloroform, and these appearances, along with the state of the heart, might account for death. The heart was empty. I cannot give a decided opinion as to the cause of death. Having heard the statement of Mr. Teale as to the state of the body at the time, I consider it was prudent to administer chloroform in the way described; I should have administered it myself after failure of other remedies in a similar case of treatment by opium. I would not as a general proposition in the treatment of delirium tremens apply chloroform. It is the recommended, but not the established practice, and therefore I should think myself justified in administering chloroform in a case where I had failed in giving relief by the ordinary means. If, as Mr. Teale says, he had been trying the ordinary treatment and without effect, he was justified in applying chloroform; and that practice would have been approved of by the heads of the profession in this country. Patients generally resist the application at first; it will produce a choking sensation sometimes. I should think, from the statement that the deceased tried to put it away with his hand, that Mr. Teale administered it properly. Convulsions sometimes take place before chloroform produces a tranquillizing effect; and sometimes these appear very frightful. The heart might be empty if the man had died suddenly of syncope. I have seen chloroform administered in hundreds of instances in this town, but I never heard of any case in which it was supposed death had been caused by it. Chloroform operates differently on different persons. I have heard patients in the full glee of singing a comic song whilst under the most dreadful operation. If I was to give my opinion, I should say the man has died from a combination of delirium tremens and of chloro-

form. I should not like to say the man has died of chloroform, but I think it probable that he might not at this time have died of delirium tremens if it had not been administered. If I was giving a description of the cause of death for registration, I should say he died of delirium tremens, giving the number of days under treatment. We examined every cavity as far as we could in the state the body was in.

By a JUROR.—It is possible that leaving his bed in the state described and going to the Court-house, might have accelerated his death.

By another JUROR.—Mr. Teale appeared to have administered chloroform after every other means had failed. I should have done so myself, although, of course, I should be cautious after this case.

Mr. TEALE said the man had been previously labouring under bronchitis, which might account for the discoloured appearance of the trachea.

Mr. SMITH said he was not aware of this, and it might account for discolouration.

Mr. WM. PRICE, surgeon, said—I quite agree with the statement of Mr. Smith with reference to the post-mortem examination. The appearances we found—I allude to the windpipe, the lungs, and the heart—had I not heard the other evidence, I should say had been produced by some powerful means suspending vital action. I find the same appearances were observed in fatal cases from the use of too large a quantity of chloroform. I should lean very much to the opinion of Mr. Smith as to the combination of causes, because I could not account for the appearance of the section solely from the effect of delirium tremens, but such appearances have been observed after too large a dose of chloroform. To a person inclined to syncope, a dose might be fatal which would produce no ill effect upon a person not so predisposed. This shows it should be used with caution. I never would use chloroform in delirium tremens without consultation; then I probably should be led to use it. Under all the circumstances, I should think that chloroform failing to effect the relief it was expected to have done, that, in combination with delirium tremens, has produced death. If I was giving a certificate to the registrar I should say that he died of delirium tremens, which was the principal disease, for though in the state he appears to have been, if chloroform had not been administered he might have lived a little longer, yet probably a few hours would make all the difference.

A JUROR wished other medical gentlemen to be asked whether they had known chloroform administered in delirium tremens.

Mr. PRICE said it was in accordance with the proposed practice, but not adopted generally.

By a JUROR.—A teaspoonful is the usual dose.

Mr. TEALE suggested that Mr. Samuel Hey, who had had a similar case, should be examined.

Mr. SAMUEL HEY, surgeon, said—I have been present during almost the whole of this examination. My opinion is that the practice adopted by Mr. Teale is such as I should have followed had I been consulted, and such as I have adopted. I have used chloroform in one case of delirium tremens, which was quite as extreme as this, and with success. I applied a larger quantity than that said by Mr. Teale to have been used. I have known it given with very great success in other cases. I consider, after other remedies have failed, it is giving the patient the last chance. It is a curious fact that in delirium tremens the virulence continues while the pulse fails. In the case I treated the patient was extremely violent, and we held him down and gave him the chloroform. The spasmodic convulsions were very violent, and he had an epileptic fit at the time, but if he had died under the application we should have applied it, for he had no other chance of life. After a while he slept about 24 hours, and to revive him we gave him some brandy, and he quite recovered. Opium treatment had been carried as far as it could safely be done, the patient having been five days under the attack. Mr. Teale saw this case for me in the first instance, in consequence of my being out of the way at the time; it was a very striking case. I consider it was justifiable to use chloroform in such a case, though the man might have died, as it was giving him the last chance.

The CORONER, in commenting upon the evidence, said, the only question for the jury to decide was, what was the cause of this man's death; and in deciding that, they would have to be guided by the evidence of the medical gentlemen. As regarded Mr. Teale, all he did was with the best intention. He had bestowed as much pains on the case as he possibly could, applying first the usual remedies without any good effect. and then, without any want of ordinary skill and care, he applied chloroform to the patient, who died shortly afterwards. According to all the evidence given, death resulted from delirium tremens combined with the application of chloroform; but the leading cause was the former. With respect to the use of chloroform, as on every other point, there would be differences of opinion, but it was in evidence that the use of it was approved of, and it had been successfully adopted by Mr. Hey in a specific case. True, Mr. Price said he would not adopt it without consultation, and, therefore, if he erred at all, it was on the side of caution; but he did not say he would not apply it in such a case. Under all the circumstances it did

appear to him that no blame was attached to Mr. Teale or to any body else, and the only safe and proper conclusion the jury could come to was, that the man had died of delirium tremens.

The jury conferred together for a short time, and then the foreman stated that they were unanimously of opinion that the deceased had died from delirium tremens; and they thought it due to Mr. Teale to state that in their opinion he had adopted the proper and necessary remedies.

Medical Intelligence.

THE MIDLAND RAILWAY COMPANY AND MR. SANDS COX.

At a meeting of the Directors of the Midland Railway Company, held at Derby on Tuesday, Nov. 6th, the following letter from Mr. Sands Cox was laid before the Board:—

"Temple-row, Birmingham, Oct. 27, 1849.

"Gentlemen,—So long an interval had elapsed without application having been made to me for the costs of the action by which I sought to recover from you my charges for operating upon and attending the poor man Higgins, that I had flattered myself you were at length convinced of the injustice of increasing the loss I have already sustained by rendering my professional services on the occasion before referred to at the instance of your Superintendent at Birmingham. I was, therefore, much surprised to receive, during the past week, a peremptory demand for these costs from your Attorneys. I should have paid the demand long since, and have endeavoured to dismiss the matter from my mind, hardly as I must ever have thought myself dealt with, if I had not, in common with all my friends, entertained a strong conviction that you cannot be fully aware of the circumstances under which I am called upon to pay these costs.

"The circumstances are briefly as follow:—I was called up in the middle of the night to attend Higgins, whose leg had been crushed in so shocking a manner by a railway carriage having passed over it, that the surgeons on the spot declined the responsibility of treating the case. I was sent to Whitacre by your Superintendent in a carriage attached to a luggage-train for that special purpose. I amputated the poor man's leg above the knee, and made two subsequent journeys to Whitacre to superintend the after treatment (on both occasions freed by a written order of your Superintendent), and I was successful almost against hope in saving the poor man's life. Higgins afterwards brought an action against the Company to recover compensation for the injury he had sustained, which action was compromised in Court; and in discussing the terms of the compromise, it was understood between Higgins's counsel and the counsel and attorneys for the Company, that the Company were to pay for surgical attendance, provided the charge were reasonable; but this term of the arrangement was purposely omitted in the memorandum indorsed on the briefs, because the gentlemen who held Higgins's brief did not consider him liable for the surgical charges, and therefore thought that no indirect admission of any such liability ought to be introduced into the memorandum. I have seen letters from Higgins's counsel which fully bear out this part of my statement. The Company having afterwards declined to pay my charges, I brought an action to test the liability, and the Judge and Jury who tried the cause expressed a strong opinion in my favour on the merits; but a case being reserved on a legal question, the dry point of law was given against me in the Court above. It was held that your agent had retained me without sufficient authority.

"Now, gentlemen, if on this state of facts it is your deliberate will that I should be put to further loss, I will pay the money at once on receiving a notification to that effect from your Secretary. But I submit to you that I attended Higgins, on what I believed, and had reason to believe, to be your summons; for how could I suppose that a gentleman who had power to send me by a special carriage was wanting in authority to retain me?

"That the Company have had the benefit of the surgical aid rendered to Higgins, as he must unquestionably have died but for that aid; and in that case his widow and children would have had a heavy claim against the Company beyond the sum paid to Higgins.

"That in losing my charge for attendance on Higgins, and in paying my own costs, the hardship of my case is sufficiently great without further aggravation.

"But I wish it clearly to be understood that I do not make an appeal *ad misericordiam;* my condition of life does not render it necessary that I should incur that degradation. I have forborne to pay your costs up to the present time, solely because I cannot bring myself to believe that you demand them with a full understanding of the injustice of the claim, and because every person with whom I have conversed on the subject has expressed a similar opinion. If you will only satisfy me by a line under the hand of your Secretary that you are in full possession of the facts and merits of the case, and that with that knowledge you require me to sus-

tain a further loss, I will bring the matter to a close by at once paying your demand.

"I am, Gentlemen,

"Your obedient servant,

"WILLIAM SANDS COX.

"To the Chairman and Directors of the Midland Counties Railway."

Peremptory instructions were given by the Directors to enforce payment of the costs without delay, and they have since been paid by Mr. Sands Cox. The conduct of the Directors in this disgraceful transaction requires no comment.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

THIS Society has been greatly assisted by legacies and contributions from members and others, and has especially to acknowledge the gracious patronage of various members of the Royal Family.

The permanent efficiency of the Society depends on the maintenance of a due proportion between the available income, and the claims made on the funds. Computations have been made by experienced actuaries on all points susceptible of calculation by way of average.

The proportion of members whose families may become claimants for relief scarcely admits of calculation; but the experience of more than fifty years has proved the wisdom and benevolence with which the Society was planned, and the prudence and efficiency with which its affairs have been conducted.

The Society is enrolled among Friendly Societies; the capital stock, converted into sterling money, is invested in the Bank of England at compound interest, and amounts to more than £45,000.

80 widows, and 37 children, have been relieved since 1793. 31 widows, and 20 children, are now receiving annual relief, which amounts to more than £1,400 per annum.*

During the past week, the following donations have been received in aid of this Society's funds:—From Dr. C. J. B. Williams, (by the Secretary), £10. 10s.; Hon. E. Phipps, do. £1.; an Inspector under the Board of Health, one day's pay, £1. 1s.

THE QUEEN'S COLLEGE, BIRMINGHAM, AND THE EDINBURGH COLLEGE OF SURGEONS.

AT a meeting of the Council of Queen's College, Birmingham, held on Tuesday last, the Right Hon. Lord Lyttelton, the Principal, in the chair, the following communication was received from the Royal College of Surgeons at Edinburgh:—

"October 17th, 1849.

"Sir,—I am directed by the Royal College of Surgeons at Edinburgh, to inform you that they have this day resolved to grant the same privileges to the Queen's College at Birmingham, in relation to their Board, which have hitherto been enjoyed by the Universities of the United Kingdom; that is to say, the medical lectures in your College will be received as qualifying for examination before this College, provided they shall be conformable to the regulations of this College as regards the duration of the courses, and all other particulars, and that certificates of regular attendance, in conformity with chap. 4, sect. 8, of the regulations of the College, shall be produced by those who apply for examination.

"Sir, your obedient servant,

"JOHN SCOTT, Secretary.

"To the Dean of the Faculty, Queen's College, Birmingham."

KING'S COLLEGE HOSPITAL.

ON Friday evening last a meeting was held in the board-room of King's College Hospital, Portugal-street, Lincoln's-inn-fields. The report announced that three-fourths of the proceeds of a sermon delivered at Lincoln's-inn Chapel on the day of thanksgiving was about to be applied towards liquidating the expenses of receiving and treating cases of cholera and diarrhœa, during the prevalence of the epidemic. It appeared that 1,339 patients so afflicted had participated in the benefits of the hospital, of whom more than 400 applied during the night, causing an addition both of medical officers and nurses to be required for the service of the institution. In announcing a fifth donation of 100*l.* from Mrs. E. M. Chandler, the chairman observed that several other offerings had been made by benevolent individuals, who had availed themselves of the opportunity of thanksgiving by aiding an hospital which had certainly rendered substantial service during the ravages of the cholera, and had incurred considerable expense in consequence. Some other business of a routine nature having passed, thanks were voted to the chairman, and the meeting separated.

DR. AYRE AND THE HULL BOARD OF GUARDIANS.

AT a special meeting of the Guardians of the Poor at Hull, lately held, it was moved by Mr. Tadman, on the recommendation of the Finance Committee, that "the sum of 100*l.*, with the thanks of this court in writing, be presented to Joseph Ayre, M.D., as a memorial of his valuable services as the superintendent of the medical staff during

* Laws, lists, and forms of proposal may be obtained from the Secretary, and will be sent by post on the receipt of two stamps.

the late cholera epidemic, and as a memento of its high appreciation of the ability displayed by him in the treatment of the disease." The motion was seconded by Mr. Fountain, and carried unanimously.

THE SAMUEL COOPER TESTIMONIAL.

At a meeting of the Committee for carrying this object into effect, held at the residence of John Chippendale, Esq., F.R.C.S., in New Cavendish-street, Portland-place, on Monday, the 12th instant, it was resolved that the proposal to be submitted to the general meeting of the subscribers to be held in the month of December should be, that a marble bust of the late Professor Samuel Cooper be placed in the Royal College of Surgeons, and that a diminished copy of this, in Parian, be presented to each subscriber of one guinea and upwards.

MEDICAL APPOINTMENTS.—CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

Dr. Risdon Bennett has been appointed physician to the City of London Hospital for Diseases of the Chest, in the vacancy occasioned by the decease of Dr. Allen Williams. Mr. John Hilton has been elected surgeon to the institution, in the vacancy occasioned by the resignation of Mr. Erichsen. Dr. Birkett has also been elected additional physician.

UNIVERSITY COLLEGE.—PROFESSORSHIP OF MATERIA MEDICA.

Dr. Garrod has been appointed to the Professorship of Materia Medica and Therapeutics at University College, vacant by the death of Dr. A. T. Thomson.

ROYAL FREE HOSPITAL.

Dr. Heale has been elected physician to this hospital, in the room of Dr. Peacock resigned.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Wednesday, 14th Nov., 1849:—Richard Allanson Gaskell, St. Helen's, Lancashire—George Alfred Sheppard, Worcester—David Purdie Maclean, Burton, Westmoreland — Lionel Smith Beale — Philip Henry King, Grantham, Lincolnshire—James Warnes Saunders, Aylsham, Norfolk —William Henry Welsh, Eccles, Lincolnshire.

OBITUARY.

On the 13th instant, at Bromley, Kent, Thomas Ilott, Esq., surgeon, in the 70th year of his age.

On Friday, the 16th instant, in the 87th year of his age, Robert Batty, M.D., of Fairlight Lodge, near Hastings.

On Friday, the 16th inst., at Chester, Thomas Bagnall, Esq., M.D., aged 65.

Selections from Journals.

ON THE CAUSE AND TREATMENT OF DIABETES MELLITUS. BY M. MIALHE.

The transformation of amylaceous and saccharine alimentary substances into glucose, is a process indispensable to their assimilation by animals. This assimilation is effected by the agency of a special ferment which M. Mialhe states that he has discovered in the saliva, and which he names animal diastase, its action being analogous to that of vegetable diastase in the transformation of the fecula of plants. This animal diastase is derived from the alkalies of the blood, which in health contains sufficient for the completion of this metamorphosis.

The normal alkalinity of the blood is constantly liable to be interfered with by the acids introduced into the system; these acids have a tendency to accumulate, unless speedily eliminated by their appropriate channels, *e. g.* the urine, perspiration, &c.

There exists, therefore, physiologically, an alkaline and an acid order of secretions: the latter comprising the gastric juice, perspiration, urine, &c.; and the former the tears, saliva, bile, pancreatic juice, and fæces. The excess or predominance of either order constitutes a pathological condition. This morbid state may and does occur in accordance with the predominance of animal or of vegetable food in the diet, as may be observed in the differences between the excretions of carnivorous and of herbivorous animals.

One result of the excess of acid in the blood and animal fluids, is that pointed out in the preceding statements, viz. that the transformation of sugar does not take place, or is only imperfectly performed; and in this latter state it exists as a foreign body in the system, to be eliminated by the urine, saliva, &c.

Diabetes mellitus, therefore, according to the views of M. Mialhe, is the consequence of the faulty assimilation of sugar, arising out of the deficiency of alkaline principles in the animal economy.

Applying his conclusions to the treatment of the disease, M. Mialhe, of course, sees in the free exhibition of alkalies the only chance of cure. By means of these he considers that he effects the assimilation of glucose, and thus removes the pathological condition, inverting the order of, and giving rise to new, phenomena. An entire change is thus effected in the organism.

To fulfil this indication, lime water, magnesia, and carbonate of soda, have been employed, and with apparent success, in *one* case which M. Mialhe relates in support of

his theory; the functions of the skin being at the same time promoted by warm alkaline baths, exercise, &c. M. Mialhe advises a mixed animal and farinaceous diet. —*Bulletin de Thérapeutique*, 1849. χ

EXTRACTION OF A GLASS GOBLET FROM THE RECTUM. BY W. S. W. RUSCHENBERGER, M.D., U.S. NAVY, FLEET SURGEON FOR THE EAST INDIA SQUADRON.

While recently on a visit to Canton, I derived the history of the following case from the notes and verbal explanations of the Rev. Peter Parker, M.D., Chief of the Ophthalmic Hospital, &c., under whose notice it fell. This case seems to me so unusual, that I avail myself of Dr. Parker's consent, and submit it for publication. It affords us a glance at the debauchery practised by a portion of the Chinese population about Canton.

On the records of the hospital, the case numbers 23,930. *Glass goblet extracted from the rectum.*—In the evening of the 1st of March, 1848, a young man, very respectable in appearance, solicited Dr. Parker's aid for his father, whom he had brought to the hospital. With many expressions indicative of his sense of shame and mortification, he related that Loo, his father, then sixty years of age, had spent the preceding night in one of the "flower boats," or floating brothels on the river, with a prostitute. Under the insane excitement of intoxication, produced by the combined influence of drinking spirituous liquors and smoking opium, the lecherous sufferer, in mischievous frolic, forced a glass goblet into the vagina of the companion of his sports. (Diameter of brim, $2\frac{5}{8}$ inches; height, $3\frac{1}{2}$ inches; diameter of base, $1\frac{7}{8}$ inches.) In the course of the night, Loo fell into a state of unconsciousness, when she sought her revenge. She carefully insinuated the base of the goblet within his anus, and then placing the end of her opium-pipe—a cylinder about an inch in diameter, and a foot and a half in length—at the bottom of the goblet on the inside, suddenly pushed it into the rectum, entirely above the sphincter. Twenty-four hours had elapsed since its introduction. An angle of about half an inch of the rolled lip of the glass had been broken out by efforts made by friends to remove it.

Such was the report of the case when brought to the hospital for relief.

On examination, the glass was found firmly fixed in its position; it was very difficult to pass the extremity of the finger beyond its lip, betwixt its outside and the rectum. In Dr. Parker's opinion, it is impossible to extract it entire; and, therefore, though anticipating difficulty and danger in the operation, he determined to break it down. By means of forceps, such as used by obstetricians in breaking up the fœtal cranium, commencing on the side nearest the pubis, he broke the goblet and extracted it piece by piece, carefully guarding the parts by folds of cotton cloth as he proceeded, and removing the small sharp fragments which fell with a teaspoon. After the bowl or bell portion was removed, the most difficult part of the operation remained to be performed, for the hæmorrhage was free, and the base of the goblet, with the sharp points of the sessile stem, resulting from the fracture, was high up in the rectum, and firmly embraced in a transverse position. Assisted by the bearing-down of the patient, the edge of the base was reached by the point of a finger, and with difficulty turned edgewise, guarding against fractured points by pledgets; then, by pressing the smooth side or bottom of the glass against the rectum, it was at last extracted. Remaining fragments were sought for, and the intestine thoroughly washed out. To arrest the hæmorrhage, which was considerable, strong solutions of sulphate of copper, and of alum, were injected, and temporarily confined in the rectum, by pressing a sponge against the anus. For a time the bleeding ceased; but during the night, several ounces of coagulated blood were evacuated; afterwards, there was no more hæmorrhage.

The operation occupied an hour and a half. An opiate was administered, and the patient placed in bed. The general treatment consisted in rest, laxatives, and light diet; the rectum was occasionally injected with tepid water, and solutions of nitrate of silver.

On the fourteenth day the case was discharged, cured.—*American Journal of the Medical Sciences.*

ON THE POISONOUS EFFECTS OF THE ESSENTIAL OIL OF CINNAMON.

M. G. C. Mitscherlich, from his experiments on animals, gives the following facts and conclusions:—1. That oil of cinnamon is a poison. Six drachms killed a moderate sized dog in five hours; and two drachms, in forty hours. One drachm induced illness of several days' duration. That it is a weaker poison than oil of mustard or savine, and stronger than oil of fennel, citron, turpentine, or copaiba balsam. 2. That oil of cinnamon is absorbed, is shown by the distinct odour of the oil in the abdominal cavity after death, and also, though to a smaller degree, in the blood. 3. Given in large doses, it can be detected by its aromatic odour in the deep yellow scanty urine; and its odour can be perceived somewhat less distinctly in the breath expired. 4. The oil of cinna-

mon produces similar changes of structure in the stomach and intestines as the oils before mentioned. In the mouth, effusion of blood and vesication of the mucous membrane, without pre-existing inflammation. In one case there was a portion of the mucous membrane of the larger curvature of the stomach, one inch long and half an inch broad, which was of a grey colour, through which the muscular coat appeared; the adjoining mucous membrane was inflamed. This surrounding inflammation extended for some distance around, and gradually passed into the natural colour. The nature of this change the author could not determine. In the small intestines the epithelium was found removed, and they contained only mucus. Besides these, the blood was found dark and slightly coagulated. The kidneys in their cortical substance, and the liver, were congested. 5. The most frequent symptoms of poisoning were—increase of the heart's impulse, slightly accelerated breathing, restlessness, evacuation of the contents of the large intestines, no increase of the urinary excretion, muscular debility with loss of sensibility, loss of the frequency and strength of the heart's action, slow and difficult breathing, coldness of the extremities, and death without convulsions. The phenomena during life are clearly attributable to the absorption of the oil, as the appearances discovered after death are not sufficient to account for the fatal effects. In a few cases where the dose was not fatal, the same symptoms in a less degree were observed, and were followed by obstinate costiveness.—*Preussische Vereinszeitung*, No. 26, *in Oesterreichische Wochenschrift*, No. 37, Sept. 1848. χ

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Physiology of Digestion. By Andrew Combe, M.D. 9th edition.

On Tic Douloureux, and other Affections of the Nerves. By Dr. Downing.

The Mother-Country, &c. By Sidney Smith.

Visiting List, 1850. Smith, 49, Long Acre.

Report of the General Medical Annuity and Relief Fund Society. Nov. 1849.

Boston Medical and Surgical Journal. Nov. 1849.

On a case of Uterine Hydatids. By J. G. Davey, M.D.

Medical Report of the Hospital for Consumption. 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·86
,, ,, ,, Thermometer[a] ..... 45·2
Self-registering do.[b] .... Max. 63·4 Min. 27·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·55.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 2°.3 *above* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 17.

Births.		Deaths.		*Av. of* 5 *Aut.*	
Males....	613	Males....	427	Males....	583
Females..	613	Females..	451	Females..	579
	1226		878		1162

Causes of Death.		*Av. of* 5 *Aut.*
All Causes	878	1162
Specified Causes	876	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	204	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	43	49
3. Brain, Spinal Marrow, Nerves, and Senses	108	125
4. Heart and Bloodvessels.....	33	40
5. Lungs and organs of Respiration	134	214
6. Stomach, Liver, &c.	50	65
7. Diseases of the Kidneys, &c.	7	11
8. Childbirth, Diseases of Uterus, &c.	6	10
9. Rheumatism, Diseases of Bones, Joints, &c.	8	8
10. Skin.....	5	1
11. Old Age	28	57
12. Sudden Deaths.....	14	12
13. Violence, Privation, Cold, &c....	26	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	6	Convulsions.....	32
Measles.....	24	Bronchitis	62
Scarlatina	41	Pneumonia	56
Hooping-cough	22	Phthisis 128	
Diarrhœa.....	21	Lungs	4
Cholera.....	8	Teething	8
Typhus.....	42	Stomach	3
Dropsy	18	Liver.....	11
Hydrocephalus	22	Childbirth	3
Apoplexy	22	Uterus	2
Paralysis	16		

REMARKS.—The total number of deaths was 284 *below* the weekly autumnal average. The deaths from cholera were eight, corresponding to the average.

NOTICES TO CORRESPONDENTS.

Mr. Swan's request shall be attended to.

Scrutator.—We regret that the communication reached us too late for insertion and comment in the present number.

Mr. Ford, Seychelles, received. Letter forwarded to publisher.

Our pages were quite filled before we received the report of the Conference at the Hanover-Square Rooms. It shall appear next week.

The communications of Dr. Snow, Dr. Shapter, and Mr. Clapp, will be inserted in the following number.

Mr. Cox will perceive that the correction has been made.

Received.—Dr. Bullen.—Mr. Smith, Belper.—Mr. Rowland, Swansea.—Dr. Routh.—Dr. J. Davies.—Birmingham Journal, Nov. 17.—The Buckeye Mercury, Oct. 19.

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

[Concluded from p. 83.]

Remarks.—The case is interesting, as illustrating, in the more acute stages, the influence of scarlet fever in bringing about Bright's disease of the kidney, already illustrated in the case of Sarah Wray.

Diagnosis.—1st. There was general anasarca, indicated by the swelling of the extremities, face, body, &c., the pitting on pressure, and the appearance of transparency of the skin in many places. 2d. There was ascites, indicated by the increased size of the abdomen, and distinct fluctuation. 3d. There was hydrothorax present, indicated by the dulness on percussion of the thorax in the inferior portions, which changed with the change of position. Lastly, the physical signs,—œgophony and friction sound, with the loud puerile respiration heard in the superior parts of the chest,—proved the existence of hydrothorax beyond a doubt. 4th. There was also slight bronchitis, indicated by the large crepitation, sonorous rhonchi, and slight cough.

The dropsy was *renal*. The previous history justified this supposition. All observers agree that in dropsy after scarlet fever the kidneys are usually affected. The face had swollen early in the disease. In dropsies proceeding from other causes, not dependent on obstruction of the veins in the neck, the face is seldom affected, or, if it be so, only at a late period of the disease. Again, the dropsy had been preceded by suppression of urine; and the several symptoms, of epilepsy, low delirium passing into coma, produced by retention of urea in the system, had been observed at the outset of the disease. His present symptoms tended to confirm this view of the case. His skin and face especially were particularly pallid: we know disease of the kidneys diminishes to a marked degree the amount of blood-globules. The urine was strongly impregnated with albumen, *i. e.* to three-fourths the quantity tested, and was very scanty. The kidneys were tender, and, as far as could be made out, enlarged and congested. The patient was generally weak and debilitated.

Treatment.—The indications were—1st, to get the kidneys to act more energetically; 2d, to endeavour to get rid of the poison, *i. e.* urea, by active purgation. Critical diarrhœa, we have seen, is what nature brings about in such cases. Lastly, the patient being excessively weak and pallid, with a weak, frequent, and tremulous pulse, and experience having shown that in cases oi albuminuria the tendency is toward the production of typhoid diseases,—to give him sufficient support to be able to withstand the debilitating effects of the remedies to be employed.

1. To relieve the congested state of the kidneys, he was cupped to the loins, and diuretics given: amongst these, digitalis. This remedy seems peculiarly qualified to remove, in moderate doses, the small, frequent, and thready pulse, being essentially sedative in its effects, and preferable in such cases to opiates, which have rather a tendency to diminish the secretion of urine. Subsequently the dose was gradually increased. In the course of the case other diuretics were substituted, or their use for a time suspended. This alteration or occasional suspension of remedies is always attended with the best results, as the system is thereby either made more susceptible of their beneficial influence, or, an opportunity being afforded to it of reposing for a time during the course of a long illness, it recovers both more speedily and completely.

2. The purgative selected was elaterium. This is a purgative especially active in dropsies, as producing not only copious, but watery stools, and especially in cases of renal disease, as it deprives the blood only of its watery portions, leaving the system scarcely debilitated from its action. The combination with calomel was made to fulfil two other indications. It not only increases the purgative effect of the elaterium, but also, by its action on the liver and mucous lining of the intestines, promotes the removal of effete or excrementitious matters. But, 2d, in all renal dropsies, Dr. Thomson is of opinion that there is always more or less subacute inflammation of the sub-cellular or serous tissues. The employment of mercurials in this way tends to remove this inflammation. For the same reason, the turpentine liniments and the linseed poultice to the abdomen were ordered.

3. To support the system, tonic diuretics were given frequently. An attempt was made to give him iron, but it proved too exciting.

In the progress of the case several symptoms of great interest presented themselves.

In the early progress of the case muscular tremors and twitches, especially when he was going to sleep, were frequently observed. The pupils were also unequally dilated. Drowsiness first occurred as a well-marked symptom on the 12th May, and continued for about a week, more or less. On the 18th May, blindness of the external part of

the left eye, deficient sensation of the skin of the forehead, and defective hearing of the left side, with a deviation of the tongue one-eighth of an inch to the same side, came on. On the 20th all these symptoms were still present, excepting the deviation of the tongue. On the 7th June the sensation was equal on both sides; the pupils were more equally dilated, but there was in addition occasional intolerance of light. On the 18th something very like aura ellipticawas noticed; and this was succeeded by jumpings and twitchings of the extremities to an unusual degree. The day after, 21st, the teeth were observed to grind. Hitherto it will have been remarked that the intensity of these symptoms bore no relation to the amount of headache; on the contrary, if any thing, the headache was less violent. On the 27th, however, though the eyesight, hearing, &c., were all improved, there was more headache. It was intermittent, recurring at a regular period, but there were no other signs of cerebral congestion or inflammation. The day after, a regular epileptic fit occurred; but now, while the other senses remained unaffected, the internal instead of the external part of the left eye was blind. On the 2d July the aura elliptica again occurred, but the jumpings and twitchings only succeeded. So soon, however, as the mouth became affected with the mercury, which occurred on the 4th, all the head and nervous symptoms disappeared.

Three possible explanations suggest themselves to account for these nervous symptoms:—1st. an overdose, or the cumulative effect of digitalis; 2d. some local inflammation in the membranes of the brain; 3d. the presence of urea in the blood.

The first supposition is doubtful. The digitalis was first given on the 1st May, ℥x. three times a day; increased on the 6th to ℥xviij.; on the 8th, ℥xxj.; on the 15th ℥xxiij.; on the 19th to ℥xxvj. On the 22d it was again diminished to ℥xxvij. every five hours. On the 20th May the Pulv. Digit. gr. j. was substituted. On the 29th the Tr. was again given in doses of ℥viij. three times a day; on the 10th June increased to ℥x.; on the 21st diminished again to ℥viij. On the 28th altogether omitted. On the 3d of July one grain of the powder was substituted three times a day, which he continued to take up to the period of his discharge. The symptoms produced by large doses, or the cumulative effects of small doses, are—great depression of the vascular system, giddiness, want of sleep, muscular twitches, disordered vision. In larger doses the same symptoms, with occasional stupor or coma, mists or specks before the eyes.

This effect of accumulation is, however, not frequent, as confirmed by Drs. Holland and Pereira. Moreover, the dose in this case was never very large, never exceeding twenty drops of the tincture; nor was this quantity long given, the dose of the remedy being often diminished, and sometimes omitted. Infants have taken a scruple three times a day without intermission for a fortnight; adults ʒj. three times a day for the same period, and it has also been frequently given in ʒss. doses with benefit. Unless we suppose, therefore, idyosyncrasy present we cannot believe these effects were due to the digitalis.

2d. Some of these symptoms might be referred to local meningitis. Opposed to this supposition, however, is the absence of any period of excitement, the inconstant dilatation of the pupil, the disproportion between the amount of headache and the nervous symptoms. This proportion was only observed once, on the 27th, when severe headache was followed by an epileptic fit; yet even here this was the only nervous symptom which had increased in intensity,—all the others were lessened. Two circumstances, however, tend to throw a doubt on the validity of these objections:—1st. The actual blindness of the external part of the left eye at first, and the blindness of the internal part which succeeded the fit. This would almost seem to indicate effusion about the optic nerve; yet even here, the non-affection of the pupils of the internal rectus muscle supplied by the lower branch of the third nerve, which is in close connection with the optic, might probably suffer from effusion about it, and the occasional production of hemiopia from mere functional disorder are all nugatory symptoms to this view. 2d. All the nervous symptoms disappeared so soon as salivation occurred. Unless, therefore, we are willing to look upon this as a mere coincidence, it must be admitted that this is a good reason for believing these nervous symptoms were connected with some inflammatory cause.

3d. Such was not, however, the view taken. We know urea in the blood will give rise to epilepsy. Indeed, convulsions and coma are the usual terminations of Bright's disease of the kidney, where no chest symptoms occur to determine a dropsy: and if this be true, a minor amount of urea may well give rise to symptoms modified in degree though similar in kind. Moreover, in the early part of this patient's case, where no inflammatory head symptoms were traced in connection with the fits, epilepsy had occurred. Lastly, we know loss of vision, nay, even partial paralysis, as in some cases of paralysis of the portio dura, deficient hearing, &c., may be produced by mere anæmia. Now, this patient was also anæmic; and it is remarked on June 7th that his blindness on sitting up was sometimes

Date.	Reaction.	Lithates.	Albumen.	Sp. gr.	No. of oz. passed in 24 hours.	Microscopical appearances.	Quantity of solid matter excreted in 24 hours.
April 29	Acid.	None.	¾	1025	—	—	—
May 2	Very acid.	Copious.	Much.	1017-21	12 saved.	Blood globules.	—
,, 5	Acid.	,,	,,	1028	—		—
,, 6	Very acid.	,,	,,	1020	—	Epithelium, mucus, blood	—
,, 7	,,	,,	,,	1016	—	globules, hairs.	—
,, 9	Acid.	None.	,,	1018	—	Blood globules.	—
,, 10	,,	—	,,	1021	—	,,	—
,, 12	,,	—	,,	1015	18½	,,	314
,, 13	,,	—	Less.	1016	25	Smaller quantity of blood globules.	454
,, 14	,,	—	Much.	1018	—	Mucus and blood globules.	—
,, 15	Very acid.	—	,,	1020	—	,,	—
,, 16	,,	—	½	1019	—	,,	—
,, 17	—	—	,,	1022	—	Do. many hairs.	—
,, 19	—	Some.	,,	1029	—	Blood globules.	—
,, 20	—	None.	Much.	1025	—	Blood globules,	—
,, 21	—	—	⅛	1024	—	uric acid,	—
,, 22	Very acid.	—	More.	1022	—	squares and prisms.	—
,, 23	,,	—	⅓	1016	—	,,	—
,, 24	,,	—	,,	1016	32	—	581
,, 25	,,	—	—	,,	—	—	—
,, 26	,,	—	More.	—	28	Globules, epi-	589
,, 27	,,	—	,,	1018	25	thelium parti-	507
,, 29	,,	—	,,	1010	—	cles.	—
,, 31	,,	—	Much more.	1027	—	—	—
June 2	,,	—	,,	1022	—	Blood, large or-	—
,, 3	,,	—	,,	,,	—	ganic globules.	—
,, 4	,,	—		1018	18 saved.	,,	—
,, 5	—	—	⅗	1021	48	,,	1150
,, 6	—	—	½	1016	15 saved.	Do. with uric	—
,, 9	Acid.	—	,,	1016	,,	acid.	—
,, 10	,,	—	¼	,,	18 saved.	,,	—
,, 11	,,	—	,,	,,	22	Do. epithelium	399
,, 12	,,	—	⅕	,,	22	tubes.	399
,, 13	Very acid.	—	,,	1018	16 saved.	,,	—
,, 14	,,	—	¼	,,	20 saved.	—	—
,, 16	,,	—	⅓	—	24	—	—
,, 17	,,	—	½	1013	34	Tubes, hair,	500
,, 19	Acid.	Some.	—	1018	34	blood globules,	690
,, 20	,,	,,	½	1017	36	oxalate of lime.	696
,, 21	,,	,,		1016	—	,,	—
,, 23	,,	,,	Much.	1012	50	—	681
,, 24	,,	—	,,	1012	60	Plenty, blood	817
,, 25	,,	—	,,	1010	53	globules.	593
,, 26	—	—	,,	1015	12	,,	224
,, 28	Acid.	—	—	1015	66	,,	1123
,, 30	,,	Less.	—	1015	70	,,	1191
July 2	,,	—	More.	1012	32	—	435
,, 3	Very acid.	—	,,	1010	42	—	618
,, 4	,,	—	,,	1012	52	—	708
,, 5	,,	—	,,	1009	46	—	460
,, 7	,,	—	Less.	1009	72	—	720
,, 8	Acid.	—	—	1022	18	Oil globules, a	357
,, 10	Very acid.	—	⅖	1009	78	few hairs.	780
,, 11	Acid.	—	,,	1009	60	—	600
,, 12	Very acid.	—	—	1010	10	—	111
,, 14	,,	—	—	1010	32	A few blood	358
,, 15	Acid.	—	¼	1012	,,	globules and hairs.	435

complete. Again, some poisons given internally, such as carbonate of lead, produce paralysis: so may urea. One curious fact was noticed in connection with these fits:—The aura elliptica occurred three times: twice being succeeded only by jumpings and twitchings of the limbs to an unusual degree; once by a decided epileptic fit. On each of these occasions the barometer was at "change." The fact is mentioned, the explanation left to others.

The state of urine presented several points of great interest in the history of the production of Bright's disease. This is best shown by the preceding tabular form.

There was a constant deficiency of phosphates throughout. The average quantity, according to Becquerel, of solid matter excreted is from 608 to 811: as before, the quantity secreted after a fit was always greatest.

These appearances in the urine tend to confirm the diagnosis. The urine continued albuminous to the end, and that after an illness of three months. The specific gravity diminished gradually, and this quite independently of the diet given. In June he appeared to improve rapidly: more salts and less blood globules were secreted; yet as the albumen also increased in quantity these appearances of amendment proved fallacious. Tubes of epithelium, and large organic globules, also subsequently appeared in the urine, which though insufficient in themselves to prove the existence of Bright's disease, yet, taken with other signs, confirm the supposition; these were especially ardor urinæ, pain in testicles, and across the loins. Lastly, on the 10th, oil globules were observed in the patient's urine. This is an appearance which Dr. G. Bird says he has never seen. We have, however, observed it in three cases:—1st. In a drunkard affected with sciatica, in whom Bright's disease also existed, under Dr. Williams. 2d. In a case of scirrhus of the pylorus; and lastly, in this case. We look upon this symptom as indicating disorganization of the kidney. Perspirations in this patient, though he was affected with Bright's disease, were common. These are often observed in similar cases.

Causes. — Predisposing of the dropsy. Dropsy of the acute febrile kind is common after scarlet fever.

2d. His age. Acute febrile dropsy is most common in patients under seventeen years of age. Of ten cases seen by Dr. Blackall, six occurred in children under ten, and two others in persons who respectively were twelve and sixteen.

3d. The existence of congestion of the kidney. Scarlet fever had been mild. In such cases dropsy is more common.

Exciting causes.—Exposure to cold and damp before the cuticle has been sufficiently hardened, is a common cause of the disease; but here no such agency could be traced.

2d. Excess in eating and drinking is another. Of these imprudences there was evidence in this case.

3d. On his admission there was bronchitis. Had this existed at the time of the dropsy it would have probably contributed towards its development. Of this, also, there was no evidence. During his stay in the hospital, however, there was some increase of the bronchitis, and with it of the dropsy.

Predisposing causes of the ascites.—In addition to those common to it and the anasarca, the liver was probably slightly cirrhosed. It was evidently indurated as felt on the 24th June. It was also smaller than usual, reaching as high only as the sixth, and not lower than the eighth rib, and the veins over the abdomen on his admission were tortuous and enlarged. If this cirrhosis existed it would predispose him to the occurrence of ascites.

Causes of the renal disease.—Renal congestion always occurs in connection with dropsy after scarlet fever. The scrofulous diathesis of this patient would predispose him to this, according to Dr. Christison. Messrs. Solon and Dr. Bright, however, deny that scrofula is a predisposing cause. The defective nutrition, by reason of the retention of excrementitious matters in the system, would lead to the deposition of cacoplastic matters in an organ already weakened, and thus give rise to Bright's disease.

Was there cardiac disease?—On his admission the impulse was increased. This might be due, however, to the pressure of the heart by the fluid in the thorax, and abdominal distension against the parietes of it. On his leaving the hospital it did not reach lower than sixth or higher than fourth. The enlargement, if there was any, was then but trifling. The systolic murmur at the base is of frequent occurrence in simple anæmia. This patient, we have seen, was very anæmic. It is therefore impossible to state positively if there was or was not cardiac disease.

Prognosis is unfavourable. He left the hospital with Bright's disease confirmed: probably cirrhosis of the liver; possibly cardiac disease. The first a mortal complication. With care his life may be prolonged, but the chances are against him.

SLOW PROGRESS OF MEDICAL LEGISLATION.

DURING the last Session of Parliament one hundred and eleven new acts received the Royal assent. Out of this large number there was only *one*, the Nuisances Removal and Diseases Prevention Act (12 and 13 Victoria, c. 111) which had any relation whatever to the duties or practice of members of the medical profession.

Original Communications.

OBSERVATIONS ON THE CLINICAL HISTORY AND PATHOLOGY OF ONE FORM OF FATTY DEGENERATION OF THE HEART.

By Edward Latham Ormerod, M.B.
Caius College, Cambridge; Licentiate of the Royal College of Physicians; Late Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital.

[Concluded from p. 879.]

Part III.

General analysis—nature of the cases—History of the disease, compared with that of the second kind of fatty heart—Pathology—Is this disease—I., *the result of general predisposition, as shown in the cellular tissue, the lungs, liver, or kidneys?*—II. *The direct effect of disease of some other organ, as the lungs?*—III. *A primary affection of the heart?*

General remarks—its connection with retarded convalescence—with angina pectoris.

Such, then, are the varied circumstances under which this form of disease may be met with, and such the materials from which its clinical history is to be collected. Clearly, not one of the heads under which the cases have been classed, can be considered as expressing the cause of the degeneration, except, perhaps, with very large qualifications, hæmorrhage. A general analysis promises better results: it will, at least, set forth in a concise form the general characters of the disease.

For this purpose, a tabular view of the chief particulars noticed in the cases detailed, is subjoined. And to these cases my friend and successor, Dr. Kirkes, has added those that have fallen under his observation in the same field—the pathological theatre of St. Bartholomew's Hospital. The entries in the table do not appear to require any particular explanation. They are arranged to elucidate two points, so far as they have not been considered in the narrative of the cases—1st, the general history of the affection; 2nd, its connection with any morbid process which may have left traces of its presence in any other organs.—(For Table, see following page.)

Of the 25 cases here referred to, 18 were male, and 7 female. Their age varied from 64 to 8, the average being 40·5, or excluding the four extremely young cases, much higher, 46 years. Of the habit of 9 of these no note has been taken; but of 9 it is recorded that they were full or fat, while 6 were notably thin, and extreme paleness was the chief characteristic of 2 others. Of the whole number, 10 were habitually intemperate. The most common complaints were exhaustion from hæmorrhage, or other cause, in 4; pulmonary phthisis, in 3; and anasarca, with or without an obvious cause, in 10 cases.

It may hence safely be inferred that this degeneration is a disease of advanced life, though its occurrence is not circumscribed within any very accurate limits of time. The subjects of the disease are not generally thin, but the reverse. They have not, however, a healthy fulness of body, and the pallor of some of them is very remarkable. Excluding the four children, the average number of intemperate subjects is perhaps not higher than among the subjects of any other chronic affection. The disease is found most commonly under circumstances of which anæmia and anasarca may express the types, where the circulation is lowered or obstructed; but there are numerous exceptions. Death in 6 cases out of 25 was sudden; in 5 of these almost momentary.

The same perhaps might be safely predicated of the subjects of what has been here called the second form of fatty degeneration of the heart: they are commonly past middle life, pale, cachectic, and fatty rather than what is usually understood by fat. But I think that symptoms of suffering directly referable to the heart are more commonly met with in this class, that a gouty disposition is more frequently to be traced, and that the external characters of the tendency to fatty degeneration are more marked. Dr. Latham tells me that it is not in those who have always been fat that he apprehends this morbid change, but where a man has been always thin, and in the decline of life becomes suddenly fat. There is reason also to think that the slowness of pulse which has been so often noticed in connection with fatty degeneration of the heart, is more particularly characteristic of this second form. At least it was not noticed in any of the cases above detailed.

Further than this the comparison of the two forms cannot safely be carried, for the information concerning each of them respectively is drawn from different classes. On the one hand the observations have been made by Mr. Paget, Dr. Kirkes, and myself, chiefly on the poor patients of Bartholomew's Hospital. Of the other kind, information has been derived from all the ordinary sources, including in the results of private practice, recorded or otherwise, a large proportion of the richer classes.

No.	Sex.	Age.	Appearance.	Habits.	Suffering at time of death from	Condition of the Heart.	Condition of the Lungs.	Condition of the Liver.	Condition of the Kidneys.	Condition of Various organs.
I.	M.	56	Fat.	Temperate.	Fever.	Double, fatty degeneration.	Emphysema, œdema.	Gall stones.	Healthy.	——
II.	F.	60	Do.	Do.	Ailing.	Not stated.	Healthy.	Healthy.	Do.	——
III.	M.	35	—	Drunken.	Delir. tremens.	Do.	Do.	Fatty.	Do.	——
IV.	M.	34	Pale.	Do.	Anasarca.	Double.	Œdema.	Do.	Granular.	——
V.	M.	45	—	Temperate.	Do.	Left, Laennec's growths.	Œdema, emph. pleurisy.	Small.	Cap. phlebitis.	Diseased aorta.
VI.	M.	55	Full.	Drunken.	Do. and bronchitis.	Right.	Œdema, emph. bronchitis.	Healthy.	Healthy ?	——
VII.	M.	40	Thin.	Temperate.	Unknown.	Double.	Œdema.	Do.	Granular.	——
VIII.	M.	8	Do.	Do.	Hæmorrhage.	Do.	Œdema, purpura.	Purpura.	Healthy.	Cereb. hæm. ulcer of stomach.
IX.	F.	30	Do.	Do.	Do.	Do. Laennec's growths.	Emphysema.	Healthy.	Renal phlebitis.	Phlebitis.
X.	M.	44	Full.	Do.	Do.	Left.	Emphysema, tubercles.	Do.	Granular.	Ulcer of duodenum.
XI.	F.	15	Fat.	Do.	Phthisis.	Do.	Tubercles.	Do.	Pyelitis.	Cap. phleb. of spleen.
XII.	M.	15	—	Do.	Do.	Right.	Do.	Do.	Healthy.	——
XIII.	M.	40	—	Drunken.	Do.	Do.	Do.	Fatty.	Fatty.	——
XIV.	F.	50	—	Temperate.	Anasarca, diseased heart.	Do. valvular disease.	Œdema, emphysema.	Healthy.	Granular.	Diseased aorta.
XV.	F.	40	Thin.	—	Do. do.	Double, valvular disease.	Œdema.	Fatty.	Healthy.	——
XVI.	M.	10	Do.	Do.	Do. do.	Do. do.	Do.	Not. ex$^{d.}$	Not examined.	——
XVII.	M.	45	Full.	Drunken.	Cancer.	Double, cancer of pericardium.	Pneumonia.	Healthy.	Healthy.	Scirrhus pylori.
XVIII.	F.	27	—	Temperate.	Anasarca.	Right.	Œdema, emphysema.	Do.	Granular.	——
XIX.	M.	46	Fat.	Drunken.	Do.	Do.	Œdema.	Fatty.	Do.	Ulcer of stomach.
XX.	M.	59	Pale.	Do.	Do.	Double.	Old tubercles, pulmonary abscess.	Healthy.	Do.	——
XXI.	M.	64	Full.	Do.	Pneumonia, anasarca.	Do.	Pneumonia.	Do.	Healthy.	Cap. phleb. spleen, dis. aorta.
XXII.	M.	57	—	Do.	Apoplexy.	Right.	Œdema.	Gall stones.	Cysts.	Dis. aorta, cerebral hæmorrhage.
XXIII.	F.	64	Thin.	Temperate.	Fever.	Left.	Pneumonia.	Healthy.	Healthy.	Ulcer of rectum.
XXIV.	M.	45	Full.	Drunken.	Aneurism.	Double, chiefly left.	Healthy.	Do.	Cysts.	——
XXV.	M.	39	—	—	Anasarca, ascites.	Left, old disease of endocardium.	Œdema. Pleural effusion	Cirrhosis.	Cap. phlebitis.	Diseased aorta.*

* Dr. Kirkes, who has kindly communicated to me the particulars of the two last cases, says :—The heart was small and flaccid : the muscular substance, especially of the left ventricle, had a dirty brown unhealthy aspect. Near the apex one part of the wall of the left ventricle felt peculiarly soft, and, when cut into, the muscular substance of that part was found to be changed into a tough yellowish substance, not unlike tubercle. Within, scarcely any part of the ventricle was found free from this morbid change, occurring in streaks or patches of a yellowish white colour. To this extent, under the microscope, the fibres of the heart presented a confused granular appearance, and the fibrils next the yellow markings had no transverse striæ. There was much oily matter hereabouts. The degeneration was so extreme that at first I thought there must be some tubercular or other deposit, but I satisfied myself that it was all fatty, and entirely confined to theleft ventricle.]

Respecting the cause of the degeneration, the questions to be solved by morbid anatomy limit themselves to these three :—

1. Is this fatty degeneration of the heart only a local expression of a general morbid tendency, displayed after a similar manner throughout the body ?

2. Is it a disease of the heart itself, independent of any general cachexia, only connected with some particular condition of some other organ ?

3. Is it essentially and primarily a disease of the heart ?

I. The existence of a general tendency to fatty degeneration may be manifested in the ordinary seats of fatty accumulations, and in internal organs, as the heart, lungs, (Med. Chir. Trans. xxxi. p. 297) liver, and kidneys. On the meaning of the term fatty degeneration with regard to the heart and liver, there is no need to dwell. And the conclusions here drawn from the condition of the lungs are so unimportant, that it is not worth while to inquire how far fatty degeneration of the lungs be a correct expression of what is commonly termed emphysema. A few words, however, seem to be required on the subject of granular degeneration of the kidney.

There seems no reason to hold that the anatomical terms of fatty degeneration and granular degeneration of the kidneys are exactly commensurate. The one expresses a very common and the other a very rare condition of the organ, and between the extreme manifestation of each respectively, the difference is as great as exists between a fatty and a granular liver. But as in the liver so in the kidney, there are numerous intermediate anatomical changes connecting the two conditions, and, pathologically speaking, the connection is very close between them. The same observations which make me, in all diffidence, hesitate to adopt entire Dr. G. Johnson's explanation of the essential nature of the disease, have made me sensible of the general importance and correctness of the views he has so ingeniously put forward. It is in the belief of the pathological connection of the diseases of the kidney enumerated in the table that they have severally been adduced ; and that seeming in their existence to trace the effects of the same morbid tendency which had manifested itself in the heart, I have thought to find evidence of the general nature of the disease.

Of the 23 cases in which the exact seat of the fatty degeneration has been noted, in

11 cases.	1, 4, 7, 8, 9, 15, 16, 17, 20, 21, 24, . . .	both ventricles were fatty.
7 ,,	6, 12, 13, 14, 18, 19, 22, ...	the right ventricle only.
5 ,,	5, 10, 11, 23, 25, ...	the left ,, ,,

And the cases which displayed fatty degeneration, or disease analogous or tending to fatty degeneration of the liver, kidneys, or lungs, together with those where the general condition of the body in this respect was noticed, may be distributed thus :—

	6 cases.	7, 8, 9, 15, 16, 23, ...	were thin.
	9 ,,	1, 2, 6, 10, 11, 17, 19, 21, 24, ...	,, full or fat.
a	1 ,,	25, ...	had cirrhous liver.
a	4 ,,	3, 4, 13, 15, ...	,, fatty liver.
b	1 ,,	13, ...	,, fatty kidneys.
b	2 ,,	22, 24, ...	,, cysts of the kidneys.
b	7 ,,	4, 7, 10, 14, 18, 19, 20, ...	,, granular kidneys.
c	7 ,,	1, 5, 6, 9, 10, 14, 18, ...	,, pulm. emphysema.

Combining the results of these tables :—

Of the cases where both sides of the heart had undergone fatty degeneration—

4 cases.	1, 17, 19, 24, ...	were fat or full.
5 ,,	7, 8, 9, 15, 16, ...	,, thin.
2 ,,	4, 15, ...	are of class *a*.
4 ,,	4, 7, 20, 24, ...	,, ,, *b*.
2 ,,	1, 9, ...	,, ,, *c*.

Of those where the right ventricle only was degenerated—

2 cases.	6, 19, ...	were fat or full.
0 ,,	. . . . .	,, thin
1 ,,	13, ...	is of class *a*.
5 ,,	13, 14, 18, 19, 22, ...	,, ,, *b*.
3 ,,	6, 14, 18, ...	,, ,, *c*.

Of those where the left ventricle only was degenerated—

2 cases.	10, 11, ...	were fat or full.
1 ,,	23, ...	,, thin.
1 ,,	25, ...	is of class *a*.
1 ,,	10, ...	,, ,, *b*.
2 ,,	5, 10, ...	,, ,, *c*.

One would naturally expect to find that the cases where the fatty degeneration of the heart was double would be those where the disease depended on a general tendency of this nature, and where it would manifest itself in fatty degeneration of other parts. Such, however, does not appear to be the fact; for, in the first place, more of the double cases were thin than fat; and next, not merely the proportional, but the absolute number of cases belonging to the different classes is less among the double than among the right cases.

On the general fat or thin nature of the subjects perhaps too much stress should not be laid. The texture and appearance of the body generally are more important than the amount of fat, in this point of view. And this could scarcely be reached by analysis, being a matter of individual observation; to be undertaken, too, in all probability, with preconceived notions, rather than the subject of physical experiment.

The greater proportion of cases of fatty degeneration of the different organs among the right than among the double cases demands a closer investigation. Probably the same cause which reduces the amount of renal disease of this kind so low among the left cases, operates also to reduce its numbers among the double cases. And this cause, as already noticed, is probably the obstruction to the circulation, necessitating increased action and hypertrophy of the left ventricle, under the circumstances. Why the same cause, obstruction to the circulation by emphysema of the lungs, is followed by degeneration rather than hypertrophy of the right side of the heart, would be hard to say; but that so it should be agrees with the result of general observation, that emphysema is more commonly followed by dilatation than by hypertrophy of the heart. It is difficult to understand how, consistently with this explanation, fatty degeneration should occasionally limit itself to that cavity of the heart which, under the particular circumstances, would be the least likely to suffer it. For instance, admitting the correctness of the explanation generally, how comes the left ventricle ever to be solely affected when there is granular disease of the kidney; or the right ventricle only, in connection with emphysema? The difficulty must remain unsolved, in the absence of cases fairly to meet it by analysis. I think, however, that it is not strong enough to vitiate the above conclusion, that the existence of granular degeneration tends to protect the left ventricle of the heart from atrophy.

Of about 500 dissections after death of all diseases, of which I have more or less complete records, upwards of 110 presentsd emphysema of the lungs, and about 40 fatty degeneration of the liver. It follows, on comparing these numbers with those in the above table, that pulmonary emphysema is not much more commonly met with in cases of fatty degeneration of the heart than in other cases, while the reverse holds good for fatty degeneration of the liver.* With regard to the affection of the kidneys, those who have most studied the subject will most readily accept my profession of my utter inability to determine the exact number of cases which have had granular disease of the kidneys. In the absence of any simple criterion by which to analyse the whole series, I can only say that I believe the proportion of cases where the kidneys are affected in one or other of the manners described in the table, to all my cases, is about one in four or five. The proportion displayed above, of ten to twenty-five, points to a close connection which I believe to exist between the general cause of these conditions of the kidney and the degeneration of the heart. But nearer the truth than this general expression of my opinion I cannot approximate.

Five cases are noticed (V., XIV., XXI., XXII., XXV.) as having presented extreme disease of the aorta. My notes generally do not mention disease of the aorta unless of an extreme degree. The proportion presenting this degree in all diseases is less than one in fifteen; in this disease it is one in five cases. Regarding the morbid changes in the aorta as all of a similar nature, expressed by the term "atheromatous," this coincidence supplies another instance of the connection between fatty degeneration of the heart and that of other organs: in any case, of its connection with disease of the arteries.

II. The local changes whose connection as such with fatty degeneration of the heart it appears worth while to investigate, are those of the lungs and alimentary canal; emphysema and tubercle of the one, and ulceration of the other.

As far as we may conclude from the following low numbers, phthisis cannot be looked upon as exerting any influence in this point of view, and emphysema only a very feeble one. More generally expressed, it does not appear that obstructions to the pulmonary circulation determine the seat of the degeneration in cases otherwise predisposed to it.

* It is a very interesting, though somewhat unsafe practice, to examine recorded cases of disease with the real or fancied light of recent investigations. The elder Dr. Latham published a paper on certain symptoms usually, but not always, denoting angina pectoris. (Trans. Coll. Phys., vol. iv., p. 278.) He quotes two cases of sudden death after such symptoms, where the liver was much enlarged. To this enlargement he attributed the symptoms. Is it not probable that the large liver was a fatty liver, accompanying fatty degeneration of the heart; and that in this last lay the cause of the pain, the slow pulse, and the paroxysms ending in sudden death?

7 cases.	1, 5, 6, 9, 10, 14, 18,	had emphysema.
4 ,,	10, 11, 12, 13,	,, phthisis.*

Of these 10 cases—

2	1, 9,	had degeneration of both ventricles.
5	6, 12, 13, 14, 18,	,, ,, the right.
3	5, 10, 11,	,, ,, the left.

It would, perhaps, be most correct to consider ulceration of the stomach as another manifestation of the same general morbid tendency which had affected the heart, in however different a way. Let it be enough, in the absence of means of further tracing this connection, simply to express the frequency of the coincidence of the two forms of disease. After deaths from all causes, less than four per cent. presented ulceration (excluding follicular and cancerous ulcers) of the stomach or duodenum. Here three cases out of twenty-five (VIII., X., XIX.), or twelve per cent. were thus affected.†

III. Lastly, how far does morbid anatomy justify the claim of this disease of the heart to be considered as primary—as essentially a disease of the heart? On such grounds as have been discussed above, it would be rash to attempt to prove a negative; but it is evident that such a view derives no countenance from these cases. It is very unlikely that fatty degeneration to such a degree as to impair its functions should take place in the heart alone, which is of all organs, by the unceasing nature of its functions, the least liable to it. And the coincidence of fatty degeneration of other organs would destroy the claim of the degeneration of the heart to be considered in this light. Perhaps the distinction is scarcely just, which placing, under such circumstances, the cause of the fatty degeneration in the blood, and denying to the manifestation of its effects in the heart the claim of being primarily a disease of that organ, should allow that claim to inflammation of the muscular structure of the heart. This, however it may be classed, is a condition to which the incessant action of the heart renders it, beyond all muscles, peculiarly liable; and, as a consequence of this, I believe that fatty degeneration of the heart, unconnected with disease elsewhere, is to be especially looked for. The above table, however, supplies no such instance.

In one other manner might this fatty degeneration begin at the heart itself—namely, as a consequence of obstruction of the coronary vessels. It may be sufficient to remark that in extreme cases of this form of disease I have found the coronary vessels healthy, and have found them diseased where there is no record of the structure of the heart having been thus changed. M. Bizot* says that disease of the coronary arteries is much more common in men than in women, —the reverse, it will be recollected, of the comparative frequency of the occurrence of the form of fatty heart which he describes in the two sexes respectively. The inference is against disease of the coronary arteries having anything directly to do with fatty degeneration of the heart; but the probability, it must be confessed, of their direct connection is very great.

There are some points yet remaining, fitter perhaps for consideration on general grounds than by analysis. How are we to distinguish the existence of this disease during life? and how, when we have distinguished it, are we to prevent its further progress? With regard to the first question, the most extreme cases detailed may show that the diagnosis, on general or physical grounds, is almost impossible. One of them was a strong athletic man, a pattern of apparent health and strength, till within four days of his almost momentary decease; and several others had their hearts carefully examined during life, in the inquiry after cardiac disease, without anything abnormal having been noticed to arouse a suspicion of the existence of this particular disease. And, after this negative answer of the first question, it might seem useless to pursue any further the second, as to treatment. But we need not contentedly sit down and add this to our other medical problems which can only be solved by dissection, and have no interest to any one but the morbid anatomist; for though, abstractedly, we know so little about it, yet its bearing on other diseases is very important. And when its recognition becomes more general, with the more general use of the microscope, it may prove to be the key to much of cardiac pathology. Let us look at it, in conclusion, in this point of view.

We cannot, it is true, predict with certainty in any case that we shall find this lesion after death, but it is difficult for any

* One case (XX.) has been omitted. There were only a few old chalky tubercles in his lungs, obviously insufficient to affect the condition of the heart in the present point of view.

† The connection of ulceration of the stomach and fatty degeneration of the heart through general cachexia is supported by Mr. Crisp's table of cases (*Lancet*, 1842-3, vol. ii. p. 639), showing the connection of this affection of the mucous membrane of the stomach with "a chlorotic condition of system."

* Op. cit. p. 384.

pathological observer not to be led to suspect the existence of a disease on the repetition of the same circumstances under which he has seen it occur previously.

In three of the cases above detailed (VII. VIII. IX.) of lingering illness, this condition of the heart has been met with in a striking degree—too striking to justify the unqualified inference that it resulted either from debility, or from inaction of the heart; for, if this were so, why should not the same changes be found more frequently under similar circumstances? These patients kept about, or lay in bed, slowly sinking, and nothing that was tried did them any good. Every organ was scrutinized, every rational suggestion (in one of them at least, where time allowed) was acted on, but all to no purpose: they quietly sank and died. Could one watch another similar case during life, and not suspect the existence of this lesion? Would not one be strengthened, by the examination of such another case after death, in the conviction that the state of the heart, or that which caused the state of the heart, had something to do with the inability to rally from the apparent disease?

Apart from all other considerations, this form of disease is, I think, less likely to occur, under such circumstances, in private than in hospital practice. For the treatment of acute disease, it is quite impossible to be better placed than as an inmate of one of our large hospitals: but during the dawn of convalescence, when little or nothing remains to be done, the contrast between private and hospital practice is very great; for hospital patients sadly miss all those kind attentions and encouragements which only friends can administer, and those only who have been sick can appreciate the comfort of. The suspicion of the existence of such a lesion should make us most assiduous, not only in the exhibition of tonics, more particularly in the form of iron, but also in the use of those mental appliances the want of which makes the spirits (may I say the heart?) flag, and allows the organs of active life to remain in a passive condition. This is common ground, on which the moralist and morbid anatomist might meet. A broken heart may not be so very incorrect an expression of the effects of intense grief, after all.

Another point to be considered in connection with this disease is the perplexed pathology of angina pectoris. The common cause of suffering and of death in this disease is perhaps correctly expressed by Dr. Latham and Dr. Heberden as spasm;* but the circumstances under which this spasm occurs are so various that we can scarcely consider any one of them as a very frequent or very influential cause. This uncertainty might well be shown by collating the diverse opinions of different physicians on this subject;* but it appears better to quote at length the experience of one physician who has seen occasion to follow diametrically opposite plans in different cases.

Dr. Latham says,† "There have been cases in which my treatment of angina pectoris, in the intervals of the paroxysms, has chiefly turned upon reducing the nutritious and stimulant quality of the patient's diet, abridging his animal food, and denying him wine and fermented drinks altogether. There was one case, and only one, in which I was driven to draw blood more than once from the arm—an unusual and a hard necessity! There have been more cases, on the other hand, in which the general habit of the patient has made me fearful of withdrawing support, and experience has shown me the need of supplying a well-regulated amount of stimulus in the shape of wine daily. The administration of steel in the intervals of the paroxysms has (I have convinced myself) in some instances been instrumental to their postponement."

My own experience on this subject is so limited that I forbear to urge it: I would content myself with comparing the inferences obtained from the facts adduced in this paper with the results of treatment which Dr. Latham has summarily expressed. How closely the two divisions of fatty degeneration of the heart appear to coincide with the two practical divisions of the patients! The wine and steel are for the soft, flabby, fatty hearts; the strict regimen and depletion for those where the fatty degeneration is secondary to inflammation.

The subject is too important, and bids too fair to have at least this view of it satisfactorily examined, that I should here endeavour to strain any facts in support of this explanation. It is true that fatty degeneration of the heart cannot have angina pectoris set down as one of its usual symptoms; for out of all the cases above detailed, not one, properly speaking, has presented it. But, on the other hand, it is impossible to read any collection of cases of angina pectoris without sharing in some degree Dr. Fothergill's opinion, without feeling how much further fatty degeneration goes to explain the symptoms than does any other morbid change usually found on dissection.

Brighton, October 1849.

* Latham on Diseases of the Heart, vol. ii. p. 386. Heberden, Comment. de Morb. Cur. § lxx. p. 275.

* See a most comprehensive essay by Dr. Forbes, Cyc. Pract. Med., Angina Pectoris, for a summary of all that is known on the subject; with the two lectures of Dr. Latham above referred to.

† Op. cit. p. 406.

ON THE

PATHOLOGY AND MODE OF COMMUNICATION OF CHOLERA.

By John Snow, M.D.

[Concluded from p. 752.]

Part II.

Communication of Cholera through the water at Dumfries—at Newburn-on-the-Tyne—at Bilston—Exemption of Birmingham and other towns from cholera—Propagation of cholera by means of water in India—The materies morbi probably sometimes destroyed by the digestive powers—Proof of communication of cholera derived from the period of its duration—Its decline explained—Measures for preventing the propagation of cholera by means of either food or water.

The former part of this paper concluded with the instances of Exeter and Hull, in both of which towns there had been, amongst other sanitary measures, a new and increased supply of water between 1832 and the present year; and in connection with this change was an immense difference in the prevalence of cholera for the better or the worse, according as the evacuations of the patients were shut out from, or admitted to, the water. In the next town I have to mention the drinking-water has remained the same, and the two epidemics have been almost equally fatal.

The inhabitants of Dumfries drink the water of the river Nith, which flows through the town, and into which the sewers discharge their contents, which float afterwards to and fro with the tide. In 1832 there were 418 deaths from cholera out of a population of 11,606, being at the rate of 360 in 10,000, or 1 in every 28 of the inhabitants. The present epidemic visited Dumfries at the close of last year, and carried off 431 persons, or 1 in every 32, out of a population now numbering 14,000; so that the mortality has been excessive on both occasions.

There is no spot in this country in which the cholera was more fatal during the epidemic of 1832 than the village of Newburn, near Newcastle-upon-Tyne. We are informed, in an excellent paper on the subject by Dr. David Craigie,* that exactly one-tenth of the population died. The number of the inhabitants was 550; of these, 320 suffered from the epidemic, either in the form of diarrhœa or the more confirmed disease, and the deaths amounted to 55. Being aware of this mortality, I wrote, about the beginning of the present year, to a friend in Newcastle—Dr. Embleton—to make inquiries respecting the water used at Newburn, and he kindly procured me some information from the Rev. John Reed, of Newburn Vicarage, which I received in February, as well as an answer from Mr. Davison, surgeon, of Newburn, to whom I had written in the meantime. I learnt from these communications that the people were supplied with water in 1832, as at present, from three wells, two of which were very little used, and that the water in the third well is derived from the workings of an old coal mine near the village. The water of this well, as I was informed, although generally good when first drawn, becomes putrid after being kept two days. It was considered that the evacuations of the people could not get into any of the wells; but the vicar thought that the water of a little brook which runs past the village, and falls into the Tyne immediately afterwards, might find its way into that well which is chiefly resorted to. Putrefaction, on being kept a day or two, is so much the character of water containing animal matter, that, after receiving confirmation of my views respecting the communication of cholera by water from many other places, I recently wrote to Mr. Davison again on the subject, and he has kindly taken a great deal of trouble to investigate the matter further. He informs me that the brook is principally formed by water which is constantly pumped from coal pits in the neighbourhood. About half a mile before reaching Newburn it receives the refuse of a small village, and between that village and Newburn it runs through a privy used by the workmen of a steel factory. In Newburn this brook receives the contents of the open drains or gutters from the houses. The drain which conveys water from

* Edin. Med. and Sur. Jour. vol. xxxvii.

a coal mine or drift not worked for a great number of years, to the well mentioned above, passes underneath the brook at one part of its course, and from that point runs alongside of the brook to the well,—a distance of about 300 yards. Mr. Davison says that it is disputed whether there is any communication beiween the drain and the brook, but that it is highly probable that there may be, and that an occurrence which took place a few months ago seems to prove that there is. Some gas-water from the steel manufactory mentioned above got by accident into the brook, and some of the people affirm that the water in the well was strongly impregnated with it.

The first case of cholera in Newburn was that of a young man living close to the brook, about 100 yards above the place at which it passes the well. He was taken ill on the 29th December, 1831, and died, in the stage of consecutive fever, on Jan. 4th, 1832. There were some cases of diarrhœa in the village, but no new cases of cholera till the night of January the 9th, during which night and the following morning thirteen persons were taken ill. During the night of the 12th four persons were attacked; by the 15th there were fourteen new cases, and on this day the late vicar died—the Rev. John Edmonston. By the next day at noon there were at least fifty new cases. A few days after this the disease began to subside, and by the 2d of February had almost disappeared. As several days elapsed between the first case of cholera and the great outbreak, it is probable that the water in which the soiled linen must have been washed, and which would necessarily run into the brook, was the means of communicating the disease to the thirteen persons taken ill on the night between the 9th and 10th of January; unless, indeed, the intermediate cases of diarrhœa could transmit the disease. There have been a few cases of cholera at Newburn the present year, and five deaths, but I have not yet ascertained whether any of them occurred in houses the gutters from which enter the brook above the well; if so, probably some accidental circumstance has intervened to prevent a catastrophe like that which took place in the former epidemic.

The state of the water is often a means of the spread of cholera in mining districts, in addition to the more constant cause pointed out in the former part of this paper. In some places the mines divert the springs, and cause a great scarcity of water, thus limiting the means of personal cleanliness; in other places the people have to use water pumped out of the pits, which of course is liable to be contaminated by the fæces of the miners: this is the case to some extent in the neighbourhood of Bilston, in Staffordshire, as I learn from Dr. Ogier Ward, and also from the Health of Towns Report.* In other districts, again, the ground is so saturated with the refuse of a large population congregated in spots which have neither sewers nor drainage of any kind, and often not even privies, that the impurities get into the wells. This is the state of Merthyr Tydvil, as we are informed by Sir H. T. de la Beche †

When the cholera was at Kendal in 1832, the only place in which it was particularly prevalent was a spot called Robinson's Yard, in which there were 20 cases and 6 deaths, out of a population of 96. "From the dunghill and privies" in this yard, "there is every reason to believe that moisture percolated the earth and vitiated the water in the well, as they were more elevated, and consequently the moisture, except by evaporation, could escape in no other direction. The water, moreover, seemed impure, and was nauseous to the taste."‡

In a court, also, in Windsor, in which the cholera was lately prevailing, it was found that the contents of the drains had got into the well from which the people obtained their water.

There are several large and populous towns which nearly altogether escaped the cholera in 1832, and have had a like exemption from the epide-

* Appendix. Part 1, p. 35. Since the above was written I have received, through the Rev. J. Wm. Owen, a note from Mr. Wm. M. Hancox, surgeon, of Bilston, from which I likewise learn that the cholera first made its appearance there this year in a street parallel with the course of a brook which receives the refuse of the whole town; and that "in a small square of buildings consisting of about ten houses, ten persons died of the disease. Most of the inhabitants of this range of houses were in the habit of using water that filtered itself into wells from this stream."

† Ibid. p. 145.

‡ Dr. Proudfoot on the Epidemic Cholera of Kendal, Edin. Med. and Surg. Journ. Vol. xxxix., p. 79.

mic that is now subsiding. There have been a few cases in these towns, it is true, and this makes the evidence to be derived from them more instructive: for as these cases were chiefly those of persons newly arrived from places where the disease was prevailing, and of a few individuals who were in close proximity with them after their arrival and illness, we learn that though the cholera was imported to these places and capable of affecting others, yet some means of communication necessary for its diffusion was wanting, or failed to operate. We shall find that in all these towns there was no connection between the sewers and drinking water by which the cholera could be propagated. Birmingham being a very large town, its freedom from cholera has attracted a great deal of attention, and not a few attempts have been made to solve what was thought to be a singularity, though, as we shall find, it is not really so. Birmingham possesses an advantage in point of salubrity in its elevated position, but Walsall, in the neighbourhood, which is as much elevated above the level of the sea, suffered rather severely from cholera both recently and in 1832; and Dowlais, in South Wales, at twice the elevation, was severely visited with cholera during the epidemic of 17 years ago. Birmingham is drained into the River Rea and its tributaries. "The state of the river Rea, which may be regarded as the cloaca or main sewer of the town, is very bad. The stream is sluggish, and the quantity of water which it supplies is not sufficient to dilute and wash away the refuse which it receives in its passage through the town. In hot weather it is consequently often very offensive, and in some situations it is at these seasons covered with a thick scum of decomposing matters."* From this quotation it appears that if effluvia from sewers caused the prevalence of cholera, Birmingham ought not to have escaped. The state of the river may, indeed, have since been altered, but the description would, at all events, apply to 1832. There is one good property about the river which has escaped the observation of the reporters—viz., that the water is rendered too impure for any one to think of drinking it. The inhabitants are supplied with water from springs and wells, and by water-works, from the river Taine, which is quite uncontaminated by the sewers. In Birmingham, consequently, there is no opportunity for the communication of cholera through the water, and the activity of the local Board of Health, in paying attention to every case amongst the poor, has no doubt been the means of preventing the spread of the disease from one individual to another by contamination of the hands and the food.

Bath has enjoyed an almost total exemption from cholera both recently and in 1832, although Bristol has on both occasions suffered rather severely, and this year the epidemic has prevailed in some villages still nearer than Bristol. Bath is supplied with water conveyed in pipes from the hills surrounding the town, whilst the sewers empty themselves into the river Avon, from which but a very few of the poor people ever obtain water. Cheltenham has enjoyed a like immunity from cholera with Bath, and the drinking-water there is quite free from connection with the sewers.

The above-mentioned three towns possess some physical advantages, in addition to the purity of the water, over some of the places in which cholera has been prevalent; but such is not the state of Leicester. It is situated in a low elevation, and entire quarters of the town are liable, after heavy rains, to be covered with offensive water from the overflowing of the open sewers and badly constructed drains; and it contains a large population of underfed operatives; yet there has been scarcely any cholera there either in 1832 or the present year. Leicester is supplied with water from springs and pumps, and partly by spring water conveyed in pipes; and the river which flows through the town and receives the sewage, is so much altered by the refuse of dye works, that the water is quite undrinkable.

Preston and Oldham, in Lancashire, are supplied with water from surface drainage on the neighbouring hills, and there has been scarcely any cholera at either of these places. The greater part of the town of Paisley is supplied in a similar way; and I am informed that the cases of cholera which have occurred there in the recent epidemic

* Local Reports on the Sanitary Condition of the Labouring Population of England. 8vo. 1842, p. 194.

were confined to a quarter of the town to which this supply of water does not extend. Nottingham is supplied with filtered water obtained from the river Trent, some distance above the town. In 1832 this supply did not extend to all the inhabitants, and the cholera was somewhat prevalent amongst the poor, of whom it carried off 289; the population of the town being 53,000. Since that time the water has been extended copiously to all the inhabitants, and there have been but six deaths from the epidemic in the present year. The local Sanitary Committee place the supply of water amongst the chief causes of this immunity from cholera,* and I believe justly.

However injurious impure water must be to the health, there is no reason to suppose that it can assist in the spreading of cholera unless it contain the excretions of the patients. Stafford is an illustration of this. In that town, as I learn through the kindness of Dr. Harland, there is not a single sewer, and the liquid refuse from the houses runs down the channels on each side of the streets. It is common at the poorer houses to have holes dug in the ground to allow the waste and refuse water to run into. The town is built on a bed of sand, and water is everywhere found at 8 or 10 feet below the surface, and the whole of the inhabitants have pumps convenient to their dwellings. Dr. Harland, from whom I have these particulars, says he has no doubt that in many cases the refuse liquid must percolate through the sand and get into the pump water; and he has known some instances in which the filthy surface water was allowed to get into the wells. There has been scarcely a case of cholera at Stafford at any time, although the disease has been very prevalent at Bilston, and many other places in Staffordshire, both recently and seventeen years ago. As almost every house has its own well, it is evident that the water does not afford the means of disseminating the cholera in Stafford; but if the disease had been introduced to any extent by other means, the pollution of the wells would no doubt have rendered it more prevalent amongst the limited number of people using the water of such wells.

There are several towns in which the cholera has prevailed to a considerable extent, although the water cannot be blamed, so far as I have been able to learn. But under those circumstances it appears that the malady has been confined almost exclusively to the poor, and has spread chiefly by personal communication. So far as my inquiries have extended respecting the more considerable provincial towns, the results of them has been as follows:—In those towns supplied with water from a river where it contains the sewage of the town, the disease on making its appearance has become very prevalent. All those towns that have enjoyed a comparative immunity from cholera are supplied with water that is uncontaminated; and lastly, the cholera has prevailed to a considerable extent in some towns in which the water can have had no share in the extension of it. The profession may expect to receive a considerable amount of information on this subject shortly, from the replies that will be made to the questions lately issued by the cholera Committee of the College of Physicians.

As we are never informed in works on cholera what water the people drink, I have scarcely been able to collect any information on this point, respecting foreign countries. There are, however, one or two circumstances that I may mention. In 1831, when the cholera had extended itself across Poland, the Hungarians placed a strong cordon of military posts to guard all the passes and defiles of the Carpathian mountains. The epidemic, however, soon showed itself on the south-west side of the chain of mountains; it first appeared in the town of Eperies, situated on one of the streams issuing from the Carpathian mountains, and two days afterwards it appeared at Tockay, a town situated about 70 miles farther south, at the junction of this stream, named the Bodrod, with the Theiss.*

Dr. Parkes informs us in his valuable work on cholera, that in the epidemic at Moulmein, in 1842-3, this disease was confined for many months almost entirely to the houses situated on or over the river; and that "one side of the main street runs close to the river, and the great majority of

* See MED. GAZ., p. 672.

* Dr. Craigie in Edin. Med. and Surg. Journ. Supplement, Feb. 1832, p. 150.

cases occurred on this side: comparatively few on the other." Dr. Parkes has informed me that he has no doubt that the people living near the river drank the water obtained from it; and the river of course received the refuse of the houses near to it. The circumstances detailed in the following passage from the same page (161) of his work, seem to illustrate very well the communication of cholera through the drinking-water, and are at all events better explained by this view of their cause than any other. "The only Europeans attacked at the commencement of the epidemic were the sailors belonging to the ships in the river: the ships nearest the shore suffered most. Thus nine cases occurred on board H. M. brig Britomarte, lying close in shore; she was moved about a mile away, into the centre of the river, and no more cases occurred. Three cases occurred on board H. M. brig Syren, also lying in shore: she was also moved into the centre of the river, and the cholera immediately ceased. The 63d regiment sailed in September and October, 1842, for Madras. One transport being accidentally detained three days in the river, had fourteen cases of cholera during the voyage; the other transports, four in number, got to sea at once, and had no cholera. A few cases occurred during this time among the Europeans on shore, but these consisted only of those who lived close to the river."

On some occasions in India the cholera has increased in prevalence with such rapidity that it has been thought that contagion would not account for the immense number of new cases: if, however, any of the discharges from the patients accidentally found admission to a limited source of water, we can perceive how that circumstance might account for these sudden outbreaks of the malady, in a warm climate where the drinking of water must be frequent and universal. Whether they have been really due to this cause can only be determined by persons resident in the country.

Many medical men to whom the above circumstances respecting the water have been mentioned, admit the influence of the water, without admitting the special effect of the new element introduced into it—viz., the cholera evacuations, in communicating the disease. They look upon the bad water as only a predisposing cause, making the disease more prevalent amongst those who use it—a view which, in a hygienic sense, is calculated to be to some extent as useful as the admission of what I believe to be the real truth, but which, I think, will be found to be untenable, when the circumstances are closely examined. If the bad water merely predisposed persons to be acted on by some occult cause of cholera to which it is supposed that all are exposed, those using such water ought to become more subject to the disease from the time it enters a town or neighbourhood; instead of which it has been shown in many of the above instances that no particular effect was observed amongst those using the water, until by the occurrence of a case or two of cholera, the evacuations entered the water, when, after a short period of incubation, there were several persons attacked nearly together.

The above evidence of the communication of cholera through the drinking-water, confirms the view of the disease being propagated by the swallowing of the materies morbi in the cases resulting from personal intercourse; for if the evacuations can produce the disease when largely diluted, à fortiori must they be capable of causing it when undiluted.

The only circumstance of which I am aware that offers any material opposition to the views on the communication of cholera here explained, is that two or three members of a medical commission in Berlin, in 1831, are related to have swallowed a portion of the cholera evacuations experimentally. The reply that must be made to this is that the stomach has most likely the power of sometimes destroying the poison. There are many reasons for concluding that this is the case. Persons are more liable to the disease in proportion as they advance in age, as is shown by comparing the attacks at different ages with the numbers living of those ages,* and as people advance in life the powers of digestion diminish. Whatever has a tendency to produce indigestion, increases the liability to an attack; as fear, anxiety and excesses in eating or drinking. To that part of

* See Dr. Budd's Lecture, Med. Times, Oct. 20, p. 315.

the subject which refers to the communication of cholera through the water of a river, two objections naturally arise—1st, that the large dilution might be expected to render the poison innocuous; and 2d, that the whole, or nearly so, of the people using the water ought to be affected by it. One answer applies to both the objec ions: it is, that a poison capable of multiplying in the body must, one would conclude, be organized, and therefore consist of particles, however minute, any one of which happening to reach its suitable habitation without being destroyed, might induce the disease. Or if the poison be really a chemical compound, capable of complete solution without losing its properties, it might yet be imbibed by minute cells, such as mucous globules or epithelial cells*, and be thus conveyed without being much diluted.

It has been asked how these views explain the cessation or decline of the disease; and whilst it must be at once admitted that we cannot actually tell why the cholera begins to decline in a place just when it does, it will appear on sufficient examination that the period of prevalence and declension of the malady are such as afford strong evidence of its communication—evidence even of this being its sole cause. The duration of cholera in a place is usually in a direct proportion to the number of the population. The disease remains but two or three weeks in a village, two or three months in a good-sized town, but in a great metropolis it often remains a whole year or longer. I find from an analysis of the valuable table of Dr. Wm. Merriman, of the cholera in England in 1832,† that 52 places are enumerated in which the disease continued less than 50 days, and that the average population of these places is 6,624. 43 places are likewise down in which the cholera lasted 50 days, but less than 100; the average population of these is 12,624. And there are, without including London, 33 places in which the epidemic continued 100 days and upwards, the average population of which is 38,123; or if London be included, 34 places, with an average of 78,823. The following short table will show these figures in a more convenient form:—

No. of Places.	Duration in days.	Average population.
52	0 to 50	6,624
43	50 to 100	12,624
33 or 34	100 and upwards	38,123 or 78,823

This difference in the duration of cholera points clearly to its propagation from patient to patient. If each case were not connected with a previous one, but depended on some unknown atmospheric or telluric state, why should not the twenty cases that happen in a village be distributed over as long a period as the twenty hundred cases which occur in a large town? The views propounded in this paper offer a more ready explanation of the decline of the disease for want of fresh victims, than the usual theory of contagion or infection; for all the members of the community are not liable to be reached by a poison which must be swallowed, as they would be by one in the form of an effluvium.

The recognised physical conditions of the season do undoubtedly influence cholera. Although it can flourish in every temperature, warm weather is usually most congenial to its progress. In September last the number of cases began to decrease, both in London and many parts of the provinces, immediately after a considerable diminution in the temperature of the weather. This circumstance, however, is quite compatible with almost every theory of the cause of cholera. It certainly does not oppose the view of the communication of the disease; for whilst temperature modifies the habits as well as the constitution of man, it might also be expected materially to influence the cholera poison, when it has to remain any time out of the body between quitting one patient and entering another, for the lower forms of organisms to which the special animal poisons bear a marked analogy, are greatly influenced by heat and cold.

The fact of cholera having spread from India over the greater part of the world, and then having retired within its former bounds to extend again after a number of years, is thought by many to have no kind of analogy amongst the more familiar diseases; but it is only a more marked instance of what occurs constantly on a smaller scale,

* I am indebted for the idea of the epithelium cells conveying the poison, to Dr. Lankester, who indeed thought that I had suggested it.

† Trans. of Roy. Med. and Chir. Soc, 1844.

in all diseases in which each case owes its origin to a previous one. It is only in a great metropolis that the eruptive fevers are all constantly present; in a village or small town they each disappear, and remain absent for a longer or shorter period either till they be re-introduced from some distant place, or by poison accidentally preserved. Small islands often remain free from some of these diseases for very long periods at a time.

Assuming the views here entertained to be correct, it is not to be expected that we should be able to trace the communication of every case of cholera. The very nature of the mode of propagation of disease above explained must render it obscure and difficult of detection. And the difficulty is probably increased by the poison being conveyed by persons in whom the disease proceeds no further than diarrhœa. The communication of intestinal worms from one patient to another has never been detected, and yet we are obliged to conclude that their minute ova are swallowed, unless we not only adopt the hypothesis of spontaneous generation, but apply it to creatures much higher in the scale of development than do the usual advocates of the doctrine. If there really be such a disease as Asiatic cholera, distinct from the ordinary English cholera which prevails in autumn, with which it is confounded by the Registrar-General, who says that the deaths from cholera are now approaching the average,—a disease imported from Hamburgh after being absent fifteen years, and evidently spreading by communication in very numerous instances; we ought not to conclude that part of the cases must depend on some other occult cause, but rather, first to examine the one sufficient cause we have found, to ascertain whether it will not explain more and more of the facts the further they are inquired into; and to search whether the localities which are favourable to cholera do not promote it through physical conditions which favour its communication.

In concluding this paper it is necessary to point out the measures which, according to the opinions and evidence above detailed, might be expected to prevent the communication, and thus stay the ravages of cholera. They are fortunately of a kind that would not interfere with commercial intercourse, and which medical men would probably be willing to make trial of, whether they do or do not entirely concur in the absolute necessity of them. The most scrupulous attention to cleanliness should be inculcated on those waiting on the sick, who ought especially to be careful to wash their hands before touching food. When cholera shews itself in a family having but one room, the patient should either be removed, or the other members of the family, except those required as nurses, should be provided with an asylum elsewhere, especially for cooking and eating their meals. As the evacuations might fly about as a fine dust whenever linen should be disturbed on which they had been allowed to become dry, it is desirable that the soiled linen and blankets should be immersed in water as soon as removed, and afterwards exposed to a boiling heat. The fruit that is hawked about the streets is kept at night in the rooms (and generally under the bed, if there be a bedstead) in which a crowd of people sleep, and in those courts and alleys into which contagious diseases are often first introduced by vagrants: hence people should be dissuaded from buying such fruit. When the cholera makes its appearance in a mining district it would be advisable that the men should work during two "shifts" in the twenty-four hours, of four hours each, instead of one "shift" of eight hours; and should be dissuaded from taking food to their work, and recommended to wash themselves on going home, as I believe they usually do. And, lastly, whilst cholera remains in the country, people should avoid using water which receives the contents of drains or sewers, or the refuse of persons navigating the water. Since anything touched by the hands may enter the mouth, it would be desirable to avoid even washing with such water; and at all events, when no other water can be obtained, so much of it as is used for drinking and culinary purposes should be filtered and well boiled.

I take the opportunity of expressing the obligation I am under to several medical gentlemen, to some of whom I was previously unknown, for the trouble they have kindly taken in answering my enquiries.

AN EXAMINATION INTO THE GROUNDS OF THE "OVULAR THEORY" OF MENSTRUATION.

By W. B. Kesteven, M.R.C.S.E.

Considerable prominence having of late years been given to the ovular theory of menstruation, as advanced by Dr. Power, Dr. Robert Lee, and others, with reference both to the physiology and pathology of that function, and of the entire female sexual system, it may not be deemed an unprofitable study briefly to inquire into the grounds of this doctrine, with the view of determining whether known facts be sufficient to warrant us in admitting it among legitimate inductive theories, or whether it should not rather be regarded simply as an ingenious hypothesis.

The importance of this inquiry will be admitted, when we reflect that by many deservedly respected authorities, this theory is assumed as the basis of their views of the pathology and treatment of uterine diseases, and of all the morbid deviations of the menstrual function, and as affording also an explanation of difficult and obscure points in pregnancy.

Thus, in America, we find one of the highest authorities propounding his opinions in the following words*:—"All that has been said upon the nature and causes of menstruation prior to the year 1825 is nonsense: our real information began to acquire some philosophical certitude from the moment of the discovery of Purkinje's vesicle, which cast so bright a dawn upon the nature and laws of reproduction; and by the labours of physiologists and naturalists since the said date, 1825, our dawn has grown to be a great shining light, under which things are clearly seen and understood, that were formerly wholly unknown, or imperfectly comprehended." And in one of the most talented works on obstetrics,† lately published in England, we find Dr. Tyler Smith thus expressing himself on this topic:—"The modern theory of menstruation, which makes it dependent on the periodical excitement of the ovaria, and the escape of mature ovules from the Graafian vesicles, the secretion of the catamenial fluid being secondary to the ovarian phenomena, may be considered as definitely proved. The fundamental analogy between menstruation in the human female, and the æstivation of mammalia, and the oviposition of oviparous animals, has also been satisfactorily shown." As the ovular theory of menstruation is one of the chief, if not the most essential, elements in Dr. Smith's system of "reflex obstetrics," it is the more requisite that its truth should be established before the ingenious views thereon depending can be permitted to have that practical value to which in such a case they would be fairly entitled.

We find also similar statements with regard to the ovular theory in some recent standard works on physiology. Thus Dr. Kirkes,* after stating the evidence on which the theory is based, remarks—"From what has been said it may, therefore, be concluded that the two states, heat and menstruation, are analogous, and that the essential accompaniment of both is the maturation and extrusion of ova."

It would be easy to multiply extracts to the same effect from other writers; but this is unnecessary, as the general prevalence of the theory is a fact which needs not further demonstration. We shall therefore examine the several propositions in which it has been advanced, and bring them to the test of recorded observation, that we may be enabled to appreciate their value.

The ovular theory has been expressed in the following propositions:—

I. Previously to the period of puberty, the ovaria do not contain mature ova.

2. It is only at, and after the period of puberty, that ova are matured in the Graafian vesicles of the ovaries.

3. The maturation and discharge of ova occur periodically, *i. e.* at the time of menstruation.

4. The maturation and discharge of ova cease with the cessation of the catamenia.

5. The augmentation of the activity of the ovaria at these monthly periods is extended to the uterus, and produces the menstrual flow.

* Obstetrics, by Charles D. Meigs, M.D. Philadelphia, 1849, p. 118.

† Parturition and the Principles and Practice of Obstetrics. By W. Tyler Smith, M.D. London, 1849, p. 76.

* Handbook of Physiology, p. 602.

6. The menstrual flow is a secretion, the analogue of the decidua — "an abortive attempt to place the uterus in a position to receive and attach the ovum to its surface."*

These propositions embrace the cardinal points of the ovular theory of menstruation. We propose, therefore, to examine them in detail.

Proposition 1.—"Previously to the period of puberty the ovaria do not contain mature ova."

On this we remark, there exists no series of investigations, instituted with express reference to the ovular theory of menstruation, that can in any degree compete with the researches of Dr. Ritchie, as related in Vols. 33, 34, 35, of the LONDON MEDICAL GAZETTE. On consulting these, we find the author recording the results of necroscopic examinations of the bodies of children of various ages, up to the period of menstruation, in the following words:—

"The ovaries of new-born infants and children are occupied, sometimes numerously, by Graafian vesicles or ovisacs, which are highly vascular as early as the sixth year, and vary in size from the bulk of a coriander seed to that of a small raisin, in the fourteenth year; at which time, also, they are filled with their usual transparent granular fluid; their contained ova can be detected, and their coats are so elastic, that their contents, on their rupture, may be projected to at least twelve inches."

The authority of Carus is cited in support of the ovular theory; but in the last edition of his "System of Physiology," this author states that he has found the Graafian vesicles and *their contained ovules fully developed in the ovaria of children of three and four years of age.*"†

Proposition 2.—"It is only at and after the period of puberty that ova are matured in the Graafian vesicles of the ovaries."

We may observe that it has not yet been shown that the decided and important change here indicated really occurs, as is implied, concurrently with the accession of the catamenia. Dr. Ritchie's dissections of the bodies of females in whom menstruation had existed regularly, and who had never been pregnant, show that no great modification of the condition of the ovaries from that preceding menstruation was regularly observed, beyond that a congested state of the ovaries is observed; but this state "does not necessarily give rise to any immediate modification in the manner in which the ovisacs are discharged, or in the subsequent changes which these bodies undergo."

"The progression of the Graafian follicles, or ovisacs, towards the surface of the ovaries, their appearance under the peritoneal coat as copper-coloured macules, the absorption of that membrane and of their own tunics, and the occurrence of a solution of continuity at the point at which they unite, take place in the menstrual precisely as in the anti-menstrual life; but in the former the vesicles are increased in bulk, vascularity, and organization, so that in their rupture there is generally a greater lesion of the peritoneum, and after the escape of the ovulum and granular fluid a larger effusion of blood into the cavity, and more remarkable changes in the coats of the ruptured cysts, than in the non-menstrual state."*

Proposition 3.—"The maturation of single ova occurs periodically, *i. e.* at the period of menstruation."

We have noticed that Dr. Ritchie's dissections have shown that the presence of menstruation is not necessary for the development or rupture of the ovisacs. It has already been observed, that menstruation may be present without rupture of vesicles; and also, on the other hand, that vesicles may be ruptured and ova discharged, before menstruation has occurred.

If the period of menstruation were the especial period of the maturation and discharge of ova, the latter should have been detected more frequently in the tubes or uterus, and more constantly after the period of menstruation than at any other time; but this is not the fact,—indeed the reverse obtains: while it may also be noticed that the number of the Graafian vesicles shows no relation to the number of the menstrual periods.

The occasional discovery of recently ruptured vesicles in persons dying during menstruation, as in the cases recorded by Dr. Power, Dr. Robert Lee, Dr. Negrier, and others, must be re-

Dr. T. Smith, loc. cit.
Carus, System der Physiologie, p. 655.

* MED. GAZ. vol. xxxiv. p. 254.

garded as coincidences, until the relation of cause and effect can be closely traced. As ovulation is a constant function of the ovaries, and menstruation an occasional function of the uterus, the two may be expected to be found occasionally concurrent.

In the MEDICAL GAZETTE, Aug. 17, a case is reported from the American Journal of the Medical Sciences, in which, on inspection of the body of a woman executed for murder, the ovaries were found in a state of congestion, with many vesicles approaching the surface. One vesicle was found ruptured, and containing a clot of blood; its inner tunic displaying great vascularity. Menstruation was just commencing. The internal surface of the uterus coated with blood; its mucous lining congested, especially about the entrance of the tubes. The ovum was searched for, but could not be found in the tubes or uterus. The reporter, Dr. Michel, assumes that it was in the tube, but could not be found owing to the corrugated condition of the lining membrane of the latter. It may, however, justly be demanded that the discovery of this fact alone, in a sufficient number of instances, and with sufficient regularity, shall be received as the solid basis for this ovular theory of menstruation. What shall be regarded as sufficient regularity and frequency, may be left to be decided when the fact itself has once been established.

It is not without surprise, seeing the little ground that can be shown for this theory, that we find such an authority as Dr. Meigs thus asserting the assumed fact:—

"When a woman's body, who has perished while menstruating, or soon after the performance of that act, is examined by the anatomist, *he always* finds upon the surface of the ovaries a small bloody spot."

"A woman *never menstruates* without rupturing a Graafian vesicle and discharging an ovulum, and leaving a scar of the opened hila."*

These essential facts are a total assumption, no facts in support of which have been offered, if we except the statement of Dr. Lee, that he never examined the body of a woman dying close upon the menstrual period, without finding a ruptured vesicle; whilst, on the other hand, it has been shown that they are not necessarily coincident, that they are only occasionally concurrent. Graafian vesicles are matured and ruptured during both lactation and pregnancy, when menstruation has been absent,—a fact which argues strongly against the ovarian theory of menstruation.

As bearing upon the proposition under consideration, we may here cite a case recorded by Dr. Oldham in this journal, July 13th. The last menstrual period occurred on Jan. 16th; sexual intercourse took place on the 28th Jan.; it had not taken place for several weeks before, and did not occur afterwards; therefore the woman was impregnated twelve days after menstruating. If the discharge of mature ova happen only at the menstrual period, conception must be limited to a day or two before, or to eight days after, menstruation; or the ovum would be washed away by the flow, and consequently this woman could not have become pregnant, as the date of impregnation is in this instance fixed.

Dr. Oldham here states that he has known cases where impregnation has occurred at the respective times of ten days, twelve days, and twenty-one days after the monthly period; and this is equally the experience of others, as well as that conception often precedes menstruation.

If the maturation occurred as the rule at the menstrual period, pregnancy would not occur so often as it does in the absence of the catamenia, as in the amenorrhœa of lactation and other conditions.

According to the Mosaic law, sexual intercourse is prohibited until after the eighth day after the appearance of the catamenia: to this the strict Jewesses add five days more, in obedience to a rabbinical precept; and yet these women are equally if not more prolific than other females. Then, if the ova be only discharged at the monthly period, these individuals become pregnant before the discharge of the ova. But the rigid observance of these injunctions by a large number of Jewesses, coupled with the known experience of accoucheurs generally, that impregnation may and does take place immediately before the menstrual period affords a much stronger proof that

* Obstetrics, pp. 120, 122. The Italics are my own.

maturation of ova occurs at any time, than the occasional and infrequent observation of recently ruptured ovisacs concurrently with menstruation affords of the ovular cause of the menstrual flow.

The words of a writer in the British and Foreign Medico-Chirurgical Review (vol. iii. p. 141), are peculiarly expressive of the opinion now entertained:—"Passing by several minor considerations, there is this great practical anatomical difficulty to be yet overcome, which hitherto, we feel confident, has not been satisfactorily accomplished — viz. the presence of a true corpus luteum, when *we know*, from the fact of impregnation, that an ovum has been cast off; and the absence of any such body after the ordinary menstrual periods. We do not deny the spontaneous discharge of ova in the rabbit, sow, &c. &c. at the time of heat; or that this periodical oviposition is followed by luteal bodies in their ovaries; but we deny that any such bodies are to be seen in the ovaria of the human female as the simple result of menstruation. We have had ample opportunity of comparing the true corpora lutea, which have followed on conception in the female, with the vacated follicles or the extravasated blood which accompany the ovarian congestion of menstruation, and form false corpora lutea. But the two are in no notable particular alike; indeed they are perfectly dissimilar; and, in our mind, it has yet to be shown that the human female is the subject of a periodical æstrum once a month, and that at this time vesicles are maturated and an ovum discharged, which may be impregnated during its slow progress through the sexual organs, whenever it may come in contact with the semen."

It is often stated, in support of the assumption of the periodical æstrum in the human female, that women are more disposed to sexual intercourse at the menstrual period. We believe, however, that, independently of the moral control of delicacy, the very reverse obtains.

We may here, in reference to this proposition, appropriately quote the conclusion arrived at by Dr. Carpenter:—"It would appear, however, that although such a discharge takes place most frequently at the menstrual period, yet that the two occurrences are not necessarily coexistent."*

The deliberate opinion of one who, like Dr. Carpenter, weighs his conclusions with the utmost care, goes nearer to truth than the bare assumptions of talent, however ingenious.

Proposition 4.—"The maturation and discharge of ova ceases with the cessation of menstruation."

Dr. Ritchie's examinations have established the fact, that the Graafian vesicles are formed in the ovaries "from the earliest periods of childhood to the most extreme old age."†

The same author states that in old age their organization reverts to the condition of infancy; they even become of a light and fragile texture, resembling cobweb, the slightest pressure or exposure to the air causing them to give way and shed their contents. These observations correspond with the results of the investigations of others also. The proof to the contrary, therefore, rests with the theory makers.

Proposition 5.—"The augmentation of activity in the ovaries at the monthly periods is extended to the uterus, and produces the menstrual flow."

For aught that has been demonstrated to the contrary, it may be more legitimately assumed that the increased vascular action of the uterus at the time of menstruation is extended to the ovaries, which are, in common with the uterus, the seat of an increased flow of blood at the same time. The extrusion of ova, it has already been said, may occur without menstruation, and the apertures on the ovaries left by ruptured Graafian vesicles may remain for three months after their discharge, menstruation recurring during the same time.

If the discharge of one or two mature ova in the human female be the efficient cause of the constitutional disturbance and discharge of menstrual fluid, it would, *à fortiori*, be expected that the same thing should occur in the lower animals, in whom many ova are discharged. And although, as Müller observes,‡ it sometimes occurs that the sexual heat of the lower animals, *e. g.* the horse and dog, is attended with a sanguineous discharge,

* Human Physiology, p. 689.
† Med. Gaz. vol. xxxv. N.S. vol. i. p. 324.
‡ Baly's Müller, p. 1841.

this phenomenon is totally different from the regular menstrual flow in the human female, which has no connection with sexual excitement. The congestion of the ovaries at the time of menstruation stands more naturally, after a review of the preceding facts, rather in the relation of an effect than of a cause. It is a mere conjecture that this congestion causes the extrusion of an ovum, and that this discharge of the ovum causes the menstrual flow. The relation of causation is only admissible when the antecedent circumstances can be shown to have actually and invariably preceded the effect, to be adequate to its production, and to accord with all the circumstances. Such cannot be asserted in the case before us. It does not agree with the circumstances of this proposition that in painful menstruation the symptoms are referrible to the uterine region; neither does it square with this theory that in prostitutes, in whom menstruation continues regularly, there shall nevertheless be found extensive disorganization of both ovaries.

It is surely only just that something more than unsupported assertions should be looked for, before the admission of a theory which is to revolutionize our entire views of the diseases and the disorders of the female sexual system. The mere ingenuity with which the several parts of a machine shall be put together, will not necessarily ensure correctness in its working, unless these be adjusted with due reference to the motor principle. And here it appears that a complicated mechanism is constructed to work under the control of a primum mobile the existence of which is but yet a gratuitous assumption.

It is not hereby asserted that such relationship as is claimed for the congestion of the ovaries at the menstrual period cannot be, or that it positively is not; but it is simply required that proof thereof, hitherto wanting, be adduced.

Proposition 6.—"The menstrual flow is a secretion analogous to the decidua."

A profound physiologist, whose researches constitute the greater portion of modern physiological science, states, "We are quite ignorant of the cause of menstruation." . . . . "The menstrual discharge differs from ordinary blood in no other respect than that of containing only a very small quantity of fibrin, or none at all. The blood corpuscles exist therein in their natural state."*

All the analyses that have been made of catamenial fluid give as their general results, blood with epithelial scales, and mucus: the latter diluting it so as to diminish the proportion of fibrin. So far, therefore, as chemical analysis has been appealed to, it has furnished no reason for regarding it otherwise than as a hæmorrhagic fluid, altered by the fluids of the surfaces over which it flows.

To assert that it is a secretion may square with a theory, but it remains still but a gratuitous assertion, not accordant with pathological phenomena, as a slight excess of the flow, or approach towards menorrhagia, is attended during menstruation with the discharge of *coagula*, showing that the blood is in greater proportion than the mucous fluids of the passages.

In the remarks that have been here submitted, the object has been to ascertain how far the ovular theory can be shown to rest on facts. The reality of the hypothesis yet remains to be established. The admission of crude theories has in too many instances inflicted lasting injury upon medical science. Medical logicians should therefore be jealous in the admission of facts; still more should they be watchful over the employment of assertions, as facts, in the construction of theories. So far as regards the subject now under notice is concerned, *facts* do not constitute it other than a plausible and ingenious hypothesis, wanting in the true elements of an inductive theory—in short, an example of the *post, ergo propter* line of argument.

The examination, then, of the so-called theory failing to exhibit the grounds of other than an ingenious hypothesis, the actual state of our knowledge of the nature of menstruation may be expressed in the following propositions; whence it will appear that the "ovular theory" has not added much to our previous information:—

1. Menstruation is a *periodical* function of the uterus.

2. Ovulation is the *constant* function of the ovaries.

3. Ova are matured in the ovaries at

* Müller, by Baly, vol. ii. p. 1841.

all ages, but more rapidly during menstrual life.

4. Ova are discharged at all periods of female life, in the intervals of as well as at the time of menstruation.

5. Ovulation and menstruation being often concurrent, indicate that they are both the result of the attainment of a certain point in the development of the female economy.

6. The law of periodicity in the one not obtaining in the other, leaves still wanting the inseparable link in the chain of causation whereby menstruation can be shown to be the effect of ovulation.

7. At the menstrual period the ovaries experience an extension of the uterine congestion, and become equally with the uterus the seat of increased functional activity.

8. The menstrual flow is a true hæmorrhage, as shown by chemical analysis and by the phenomena of disease.

This communication might have been considerably extended by further quotation from Bischoff, Power, Wagner, Lee, Carpenter, Ashwell, Wharton Jones, Paget, Girdwood, Meigs, Smith, and other obstetric and physiological writers, from whose works the various arguments both in support of, and as opposed to the ovular theory, may be culled; but the preceding remarks embrace the chief points under discussion, and the space of the MEDICAL GAZETTE is too valuable for more than sufficient to place clearly in view the *facts* with which it is desired to deal. It is hoped that this object is here attained; and, as to arrive at a correct conclusion on a most important subject, is the writer's only desire, he trusts that the preceding "*inquiry*" may not be fruitless to this end.

Upper Holloway,
November, 1849.

EXTERNAL APPLICATION OF CHLOROFORM.

BY A. P. KING.

DR. KING relates the following cases in proof of the good effects produced by the external application of chloroform :—

CASE I.—I was summoned hastily to see a daughter of Mrs. P., about 12 years old, who had fallen while at play, and it was feared had broken her arm. I found the girl almost frantic, complaining bitterly of her arm, and not allowing any one to touch it. My first intent was to quiet her by the administration of chloroform, and while under its influence to examine the arm. Accordingly, I prepared a handkerchief with a small quantity; but from her restive disposition I entirely failed in its administration. It occurred to me that an application to the arm might be of service. With a little persuasion I induced her to let me "bathe" her arm with what I had upon the handkerchief (perhaps ʒj.) Not two minutes elapsed before she said her arm felt as well as ever. On examination—which was allowed without the least sign of pain—no fracture or dislocation was found. She soon fell into a quiet sleep, from exhaustion or otherwise, and in two hours was as able and willing to romp and play as ever.

CASE II.—Mrs. W. called me in to "do something" for her leg. It was very painful, and had been so for twenty-four hours. She had exhausted all the domestic remedies and quack nostrums to no good purpose. I found her sitting in a chair, with the pained leg in another. From the knee to the foot (the seat of the pain) there was an unusual heat, some swelling and tenderness. I doubled a piece of cotton cloth, laid it upon the affected part, and saturated it with chloroform. One minute had not passed before it was much easier, and not five before it was perfectly easy. I left her a phial containing ʒss. to apply in the same manner if the pain returned. The next morning Mrs. W. was about the house as usual, having had no occasion for a second application.

CASE III.—Mrs H., about 60 years of age, had "turned" her ankle—was in extreme agony. Applied perhaps ʒj.—ij. of chloroform to the painful part, which produced almost instant relief.

CASE IV.—Louisa P. had fallen down stairs and bruised the back of her head, thirty-six hours previous to calling for my assistance. Had been in severe pain from the first; slept but little. After a thorough application the pain subsided; she soon fell asleep, and awoke as cheerful and well as ever.

CASE V.—Mr. B. fell and fractured the lower third of the ulna of the left arm, two or three hours previous to my attendance. Chloroform was applied externally, which allowed me to reduce and dress the fracture with but little or no pain.

I mention these few cases as fair specimens of some twenty or thirty applications of this invaluable remedy *externally*, which I am happy to say terminated very desirably. —*Boston Medical and Surgical Journal*, 1849.

MEDICAL GAZETTE.

FRIDAY, NOVEMBER 30, 1849.

We invite the attention of our readers to a letter which we have received from Dr. Davies, in reference to the action brought against the Midland Railway Company for surgical assistance rendered to a pauper at the request of a Railway official.* It will be perceived that in this case, although the Company has benefited by the surgical assistance rendered, inasmuch as without it the man would have died, and they would then have been called upon to pay heavier damages for loss of life, yet they do not hesitate to take the full measure of law. The medical men who saved this life, and probably thereby put into the pockets of the Company six hundred pounds, are compelled, under a hard judgment, on a *new* point, in which the opinion of one learned judge was in their favour, not only to go without any remuneration, but to pay their own costs, and the *costs of the Company*, in the action! It has been said that a Railway Company has no conscience, and the case before us clearly establishes the truth of this saying. Messrs. Cox and Davies have been heavily fined, *according to law*, for performing a charitable duty.

Medical men residing near Railways will derive an important lesson from this case. If a serious accident occur to a pauper-passenger, either he must be left to die on the road, or surgical assistance must be afforded to him gratuitously. No Railway official at a station has authority to call in a surgeon, however urgent the case may appear to be. The only legal authority must be derived from a legally constituted meeting of a Railway Board, or from the order of a responsible director. Before this can be obtained, the pauper-passenger may die. Such is the law; and it will be well, in order to avoid the painful consequences which have resulted to Messrs. Cox and Davies in this case, that this decision should be borne in mind by all medical practitioners. These gentlemen saved a man's life, and thus prevented a very heavy liability from falling on the Midland Railway Company; and the grateful return made to them is, not only a denial of their lawful fees, but a seizure of their goods under an execution!

We are glad to perceive, by a communication forwarded to us, that the name of the Royal Exchange Assurance Office, one of the oldest established offices in the metropolis, is added to the list of those which act upon the equitable principle of remunerating medical referees for their opinions. It is impossible that the other offices can long hold out; and we consider it to be the positive duty of every member of the profession not merely to withhold an opinion when no fee is allowed, but, if consulted respecting an eligible office, to recommend one of those which recognise the rights of the medical profession. They are now sufficiently numerous to suit all classes of insurers. In Smith's useful Visiting List, elsewhere noticed,* we find that there are *twenty-four* Offices which have adopted the principle of medical remuneration.

* See page 948; also a letter from Mr. Cox in our last number, page 908.

UNIVERSITY COLLEGE, LONDON.

The Council have received notice of two legacies—one of £500 for the hospital, by Mr. Lewis Morris Cuthbert, of Lyon Terrace, Maida Hill; the other for the college, £100 free of duty, by Mr. Wilkins, of Mackworth, Derbyshire.

* Page 938.

Reviews.

1. *On the Treatment of Ulcers on the Leg, without confinement; with an inquiry into the best mode of effecting the permanent cure of varicose veins.* By HENRY T. CHAPMAN, F.R.C.S. &c. &c. 8vo. pp. 156. London: Churchill. 1848.
2. *A Treatise on the Cure of Ulcers by Fumigation: in which a rational treatment is deduced from the physiology of ulceration, and proofs afforded that the new method produces more speedy, certain, and permanent effects than any other in general use; with an analysis of the modes of cure hitherto employed, and an exposition of the decided advantages possessed by the new treatment.* By GEORGE ALFRED WALKER, Surgeon; Author of "Gatherings from Grave-yards," &c. &c. &c. 8vo. pp. 112, plates. London: Longmans; and Highley. 1847.

ULCERS on the legs vary almost as much as individual characters and constitutions: they have, indeed, but one feature in common—an indisposition to heal under ordinary treatment; and hence the various plans which have been proposed and tried for their cure, and in their turn abandoned for other equally unsuccessful modes of treatment. Under these circumstances, notwithstanding that so much has been said and written on ulcers, by surgeons of eminence and by surgeons of mediocrity, we were disposed to receive with gratitude the assistance or guidance which Mr. Chapman's work seemed to promise us. We regret, however, to be obliged to confess that we find but little in this treatise that has not been said before. The only novelty of the author's plan consists in the addition of cold-water dressing to the long recognised treatment by bandaging, enforced by Baynton and others. We feel somewhat sceptical as to the success of this or any other mode of treatment entirely "*without confinement;*" indeed, the author's preliminary measures involve rest of the limb in many cases. This must be obvious if we bear in mind the most frequent cause of the intractability of ulcers on the leg.

Mr. Chapman's "Inquiry into the best mode of effecting the permanent cure of varicose veins," results in a negative conclusion.

"In short, the only thing which seems wanting to establish the superiority of galvano-puncture over all other methods of treating varix, is satisfactory proof of the permanence of the effects produced by it." (p. 122.)

Notes of thirty cases of ulcers healed by cold water dressing are appended to this essay. In these we are not surprised to see occasional mention of confinement to bed and to the horizontal posture.

2. The unusual fulness of Mr. Walker's title-page, which we have above quoted, renders it unnecessary for us to occupy much space in endeavouring to give our readers some information of the contents of the volume. As an historical treatise it contains an excellent summary of the various modes of treating ulcers which have been chiefly resorted to from the time of Hippocrates to the present day. The physiology and pathology of ulceration are also clearly and briefly put before the reader.

The purport of the work, however, is not so much to repeat the oft-told tale, but to bring under the notice of the profession the benefits which the author has found to be derived from the novel application of the vapours of iodine and sulphur to the surface of ulcers. An apparatus adapted for the purpose has been contrived by him; but for a description of this we refer our readers to the work. The following extract will illustrate the curative effects of this fumigation:—

"The tendency to ulcerative absorption is rapidly changed by a powerful impression made on the vitality of the affected part: in other words, the 'bad habit' of the disease is broken.

"The sensibility of the sore, and of the limb, is advantageously modified, as the diminution and quick subsidence of all pain demonstrates.

"The vessels of the part are as rapidly acted on, and instead of secreting pus, are stimulated to throw out a plastic secretion, which at once serves as a defence to the sore, and a nidus for the formation of healthy reparative tissue.

"The inflammatory action, more or less of

which constantly attends every species of ulcerative absorption, is soon subdued; and instead of the red, livid, and angry circle which surrounds the sore, we speedily obtain the dull whitish margin, indicative of incipient cicatrisation.

"The callous deposits on the edges of the ulcer—the irregular and morbid effusions which constitute its base—the yellow infiltration, which fills or disorganises the cellular tissue in the vicinity of the ulcer, and frequently that of the whole limb—all these are removed by the rapid absorption which fumigation excites.

"This removal of morbid deposits not only enables nature to proceed more quickly to the completion of the reparative process, but renders the cure more permanent; for the tendency to relapse, under the old methods of treatment, depends on the cicatrisation having taken place over 'unsound flesh.'

"The cure therefore, is not only quick but lasting." (p. 82-83.)

This extract conveys at the same time the author's physiological and pathological views. Should subsequent experience confirm his expectations he will undoubtedly have conferred no slight boon on surgery.

Observations on Hospital Gangrene, with reference chiefly to the disease as it appeared in the British Army during the late war in the Peninsula; with prefatory remarks: to which are appended Cases, showing how extensively applicable the Antiphlogistic is to other diseases of the Army. By John Boggie, M.D., Surgeon to Her Majesty's Forces. 8vo. pp. 151. Edinburgh: Sutherland and Knox. London: Highley. 1848.

The title of the above work sufficiently expresses its purport, and therefore renders it less necessary on our part to give a lengthened notice of the author's views. These were first published in the Transactions of the Medico-Chirurgical Society of Edinburgh in the year 1826, and it might have been supposed that a reprint thereof was unnecessary, either to enforce the author's line of practice or establish his claim to having been the first to introduce antiphlogistic treatment in hospital gangrene. The following quotation from Dr. Copland's Dictionary (article Gangrene), compared with the extract from the author's essay, will, however, serve to justify its publication, and indicate the improvement in the treatment of this too often fearfully intractable malady:—

"Bloodletting is considered injurious, or productive of little benefit, by Blackadder, Thompson, and *Boggie*; whilst Dr. Hennen and Mr. Welbank consider that moderate depletion is serviceable early in the attack, and in strong plethoric persons."—*Dr. Copland.*

"No precise rule can be laid down regarding the quantity to be taken; but in severe cases I have had occasion to take one, two, three, or even four pounds of blood before the inflammatory symptoms were subdued. In men, however, of a less robust constitution, who may have lingered long in hospital, or suffered much from ill health, we must act with the greatest caution. Blood-letting in such is either altogether inadmissible or should be used very sparingly. The same may be said of those who are the subjects of hospital gangrene in civil hospitals. They are, for the most part, poor people, worn out with age, or whose constitutions have been broken by poverty and hard labour; in such the disease assumes a different character, and will require a corresponding treatment." (p. 90-91).—*The Author.*

The author's object throughout the work is to show that he first introduced the antiphlogistic treatment in the above cases, and that in the first instance he did so among the patients of the hospital which Dr. Hennen had had charge of during the Peninsular war, but from which he was removed by some other duty, and which was consequently entrusted to the care of Dr. Boggie.

The treatise embraces the history of hospital gangrene in its symptoms, causes, and treatment. Confirmatory of the author's views in reference to treatment, we may state that M. D'Auvergne* has successfully treated several cases of senile gangrene by depletion, cold lotions, &c.

Dr. Boggie's work should be in the possession of every surgeon in either department of the public service, and it will also prove useful to the civil practitioner.

The Physician's, Surgeon's, and General Practitioner's Visiting List for 1850. London: Smith, Long Acre.

We have two copies of this Visiting List now before us: the one is bound in cloth, and the other in a pocket-

* Bulletin Général de Thérapeutiqne, August 1848.

book form, to suit the convenience of practitioners. The "List" contains a Medical Almanack—a table of the hours of meeting of all the medical and scientific Societies in London—a list of medical periodicals, of the general and special hospitals, dispensaries, and infirmaries, in London—fees claimable by medical witnesses—a list of Insurance Offices which recognise the principle of medical remuneration—with tables of poisons and their antidotes, weights and measures, equivalents—a notice of mineral waters and their effects—medical topography—with other useful medical memoranda. It is a most complete and useful pocket companion to the medical practitioner; and one strong recommendation of it is, that it is to be purchased at the price of a common pocket-book.

The introductory matter has been drawn up with judgment and care.

QUEEN'S PRISON—APPOINTMENT OF SURGEON.

eff SAVING of £130 per annum has been ected in the charge for medical attendance in the Queen's prison. Mr. Morton, the late surgeon, had £200 a year; and Mr. Hooper, deputy-assistant, £80 per annum. The places have been consolidated, and Mr. Hooper appointed at a salary of £150.

THE CHOLERA AT EYEMOUTH.

THE village of Eyemouth for twenty-four days past has been the scene of great distress and mourning. In that short time no less than fifty-four persons have fallen victims to cholera and fever, being at the rate of four per cent., or one in twenty-five of the population, which numbers about 1,400. On some days the number of deaths was as many as eight.

OBITUARY.

ON the 25th inst., at Weymouth, Dr. Cardew, late Physician to the Bath General and United Hospitals, and of Laura Place, in that city.

Nov. 13, at Northampton, William Percival, Esq. Fellow of the Royal College of Surgeons of England, and a Member of the Provincial Association. Mr. Percival was for upwards of twenty-nine years one of the Surgeons to the Northampton General Infirmary; which appointment he resigned, owing to declining health, a few weeks before his decease. He was deservedly held in high estimation, both by his professional brethren and by the public. James Mash, Esq., also a member of the Council of the Association, has succeeded to the appointment of Surgeon to the Northampton General Infirmary.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

November 21, 1849.

CÆSAR HAWKINS, ESQ., in the Chair.

Dr. PEACOCK presented a specimen exhibiting the effects of

Acute Dysentery following Typhoid Fever.

The patient, a man 32 years of age, was admitted into the Royal Free Hospital on the 18th of September, and stated that he had then been ailing for two weeks. He presented the usual symptoms of a very mild attack of typhoid fever. A few elevated spots, which faded on pressure, made their appearance on the abdomen on the fourth day after his admission into the hospital, and remained out for seven days. He had never any diarrhœa; the pulse was but little accelerated, and he was convalescent on the nincteenth day of residence. For two weeks he continued capable of walking in the yard, but did not gain strength, and about that time symptoms of acute dysentery came on, under which he sank on the fifty-third day from his admission.

On examination, the remains of large and deeply-excavated ulcers were found in the lower portion of the ileum, and the whole of the mucous membrane, upwards of two feet above the cæcum, was in a state of intense inflammation, and in places gangrenous. The convolutions of the intestines were matted together by moderately tenacious lymph, and the peritoneal coat had the usual appearances of inflammation. The kidneys were in an advanced state of granular degeneration. During life a hard tumor had been felt in connection with the left lobe of the liver, and this after death proved to be a contracted *hydatid cyst.* The tumor was the size of a bantam fowl's egg; it was hard, but had an obscure feeling of elasticity when compressed. On section it was found to consist of a dense cyst, having a thick and hard deposit of cretaceous matter on its inner side. Within this there was a transparent membrane, bearing every resemblance to the collapsed cyst of an hydatid. It contained fluid mixed with much cretaceous matter; and, under the microscope, some of the hooklets which surround the anterior extremity of the echinococcus were seen, together with numerous plates of cholesterine.

MR. TOYNBEE exhibited a specimen of

Disease originating in the Tympanic Cavity, causing Caries of the Temporal Bone, and Paralysis of the Portio Dura Nerve.

The man from whom the preparation was

removed was a patient in the Westminster Hospital, under the care of Dr. Kingston, to whose kindness Mr. Toynbee was indebted for the opportunity of seeing the case during life, and of conducting the dissection. The specimen belongs to the museum of the Westminster Hospital. The patient, who had been completely deaf in the right ear some years, died of consumption at the age of 44. At the age of 14 he took a bad cold, which was followed by discharge from the right ear, which, with the exception of a month or two, had continued up to the present time. He had not been troubled by any unpleasant symptoms until a few weeks ago, when he gradually lost the use of the right side of the face, and was unable to close the right eye. This paralysis remained complete until a day or two previous to his death, when it was found that he could partially close his eye and move the face slightly. Upon making a *post-mortem* examination, the dura mater covering the upper surface of the petrous bone was thin, and at one spot, about a line in diameter, it was soft and pulpy, and of a leaden hue. Upon being touched by the finger this pulpy portion broke up, and an orifice was produced, which corresponded with one in the bone forming the upper wall of the tympanic cavity. The mucous membrane of the tympanum was entirely destroyed by ulceration, excepting a small patch here and there. The stapes was absent. The internal wall of the canal for the portio dura nerve, for the length of two lines and a half, had been destroyed by caries, and the portio dura nerve was bare. It was of a dark colour; half of its substance was soft and pulpy; a portion of it, also dark and pulpy, formed a small tumor, which projected downwards and partially filled the fenestra ovalis, left open by the absence of the stapes.

Mr. Henry Gray exhibited a specimen of

Necrosis of the angle, posterior part of ramus, and condyle of the Lower Jaw, on the right side, followed by complete recovery, and reproduction of the bone.

This portion of bone was removed from the face of a young scrofulous boy several years ago by Mr. Keate. He soon recovered after its removal, and reproduction of the bone followed. The patient, who is now a fine man of eight-and-twenty, enjoys perfect health: there is not the slightest deformity; perfect motion of the jaw is permitted, and mastication is effected as perfectly as if the original bone had not been destroyed. The jaw was very carefully examined two years ago by Mr. Keate, and it was ascertained that a new ramus and condyle had been formed in the situation of the necrosed portion of bone.

This specimen is of some interest, inasmuch as only two other cases are recorded where necrosis of the condyle and ramus has been followed by reproduction of new bone. Both these are mentioned by Mr. Stanley in his elaborate "Treatise on Diseases of the Bones." One occurred in the practice of Desault, and is mentioned by him in the second volume of the Chirurgical Journal. The case was that of a girl ten years of age, in whom the whole ramus of the jaw, with its condyle and coronoid process, was removed. The other is recorded by Mr. Syme in the "Edinburgh Medical and Surgical Journal," where separation of the ramus with the entire condyle took place; and in both cases new bone was reproduced, and perfect mobility of the jaw followed.

Three other cases have been recorded of necrosis of the whole of the lower jaw, including the condyles; but in these no reproduction of new bone followed, the bony matter being replaced by an extensive fibrinous deposit, forming a firm and dense cicatrix, almost as solid as bone itself. Of these three cases, one is mentioned in South's translation of Chelius, which occurred in the practice of Mr. Tyrrel, where necrosis of the whole of the lower jaw took place as a result of the too liberal exhibition of mercury. The two remaining cases are illustrated by preparations which are contained in the Museum of Saint Bartholomew's Hospital. One of these was presented by Mr. Perry—a beautiful specimen of necrosis of the entire jaw, in which both condyles were implicated. The case is recorded in the 21st volume of the Medico-Chirurgical Transactions. The third case has been recorded in the last number of the Medical Times. It was that of a man in whom the entire body and one condyle had become necrosed and was removed by Mr. Stanley, the other condyle having been absorbed. In this case, also, no reproduction of new bone has taken place.

Mr. Dixon exhibited a specimen of

Slough of the entire Masseter Muscle.

Eliza Lichfield, æt. 24, 7, Suffolk Street, Snow's Fields, came under his care as an out-patient at St. Thomas's Hospital, Oct. 24th, 1849. Her right cheek was much swollen, and of a dusky-red colour: it felt doughy to the finger, but no distinct fluctuation could be detected. Pressure on the part caused an escape of very fœtid pus into the mouth.

No cause could be assigned for the swelling, which had begun nine weeks previously, accompanied with pain, and stiffness in moving the jaw. About a fortnight after

the swelling had commenced, the patient received a blow with a fist on the part, and the pain then became more severe. She could not state precisely at what period pus first found its way into the mouth, but believed it was within the last four or five days.

A poultice was ordered to be applied, and the patient directed to return on the 27th. She did not come again until November 3d. There was then an aperture in the cheek, out of which hung an ash-coloured slough, about as large as the third phalanx of the little finger. With a dressing-forceps he grasped the slough, and with careful traction drew it out without breaking it. It proved to be the entire masseter muscle: about half a drachm of stinking pus followed its removal. A probe passed into the opening struck against the periosteum of the lower jaw, but no bare bone could be felt anywhere. No breach in the mucous membrane of the mouth could be discovered.

Some quinine was ordered, and the poultice was continued.

Nov. 7.—The hole in the cheek had diminished so much as barely to admit a goose-quill. The patient's health had improved, and she could separate the incisor teeth to the extent of a quarter of an inch. A depression marked the former site of the masseter.

On the 14th of November the hole in the cheek would only admit a probe, and the discharge had almost ceased. The movements of the jaw were daily becoming more free.

Mr. Partridge exhibited a specimen of

Simple Gelatinous Polypus, which he had removed from the Membrana Tympani.

It had existed for some time, but was very readily removed by means of a small pair of forceps: there had been no return of the disease.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

October 18, 1849.

Cholera Fungi.

Dr. Inman exhibited to the Society one of those bodies which had been described as fungi existing in choleraic discharges. He dwelt upon the variety of different substances which were to be found in these discharges,—particles of an oleaginous character as proved by heat, of a starchy character as proved by iodine, of an epithelial character as proved by comparison with other fluids. He had examined the rice-water fluid of a patient at the commencement of the epidemic, but found nothing peculiar. He had examined other cases since Dr. Brittan's announcement of the discovery of a fungus. Not being able to find anything similar to what was described, he had applied to Mr. Swayne, who had courteously sent him the specimen then under the microscope. After describing some experiments he had made upon this substance, and noticing its strong urinary smell when submitted to heat, he concluded by expressing his opinion that the small round bodies were minute concretions of carbonate of lime; and that the larger bodies were totally distinct from them: he was of opinion that they were not fungi, but was unable to say decidedly to what class of organized bodies they belonged. The character of the former was proved by their giving a distinct cross with the polariscope, and by being soluble with effervescence in nitric acid: they assumed occasionally a dumbbell appearance. A friend of his, Mr. Byerley, of Upton, had shown him some substances he had originally thought were the fungi described by Dr. Brittan and Mr. Swayne: on comparing them, however, with the specimen now exhibited, they were clearly of a different nature, and were probably ova.

Biliary Calculus.

Dr. Turnbull exhibited a large gall-stone, taken from a gall-bladder so contracted as barely to contain the calculus. The ductus communis was obliterated, but there was a perforated opening into the stomach, which established a connection between that organ and the gall-bladder. The patient died after twenty-four hours' illness.

Congenital Dislocation of both Knees.

Mr. Davis related the case of a female infant born before the full time, in whom both knees were dislocated at the time of birth, so that the soles of the feet turned towards the abdomen. The presentation was natural, but the child was very feeble, and did not seem likely to live. The patella could be felt distinctly, but it was small, and appeared sunk in an unusual hollow between the condyles of the femur. By gentle extension, which gave no pain, the dislocation was reduced, the limbs being retained in their improved position by gutta percha splints. At the end of a fortnight the knees could be bent in the natural way, and the child is now quite well.

Phlebitis of the Femoral Veins.

Mr. Davis related the case of a man, aged 30 years, of delicate and broken-down constitution, who was recovering from a mild attack of simple fever, when he was suddenly seized with acute pain in the thigh, along the course of the femoral vein, accompanied by fever, with a pulse of 100 to 120, and the whole limb, up to the groin,

enormously swollen and very painful. By the use of leeches, calomel and opium, and blue ointment, the pain and swelling abated, but were followed by most profuse and intractable sweating. There was no local suppuration to occasion this. He at length improved, and was nearly well, when the other leg was affected in an exactly similar way, and went through the same course. He ultimately recovered.

Dr. Dickenson said, he had frequently noticed the occurrence of phlebitis after *mild* fever, and was surprised to see how little this sequel of fever had attracted the attention of systematic writers on this disease.

Artificial Anus.

Dr. Nevins mentioned the case of a very fat woman, aged 50 years, who had an intractable diarrhœa for many weeks, accompanied by pneumonia. She stated that she had an abcess of the liver many years since, which burst through the walls of the abdomen, but had quite healed up. For a short time she complained of pain in the right iliac region, which was swollen, but never proceeded to the formation of an abscess. Leeches were applied; but after the diarrhœa had continued above a month, an opening formed at the umbilicus, through which the fæces escaped externally. The opening gradually contracted, though the fluid portions of the fæces continued to escape; and at the end of another fortnight she was sufficiently well to travel to her residence in Nottinghamshire.

Dr. Nevins commented upon the extreme difficulty of closing these artificial ani. He had seen sutures, caustic, the actual artery, and the removal of the edges by the knife, all tried, but ineffectually.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Nov. 3, 1849.

F. Hird, Esq. President.

Case of large Hydrocele with thickened Sac.

Dr. William Ryan related the following case: — The patient, aged 47, five years ago was thrown off a ladder, and in the fall the testis came forcibly on the edge of a cask. He did not experience very severe pain at the time, but had a sensation as if the gland had been quite broken or flattened, and in the course of half an hour "felt as well as ever," working the remainder of the day. In a few days the scrotum began to swell to about the size of a large egg; remained so a month, and then got smaller. Subsequently it began again to swell, and gradually increased to the present size. It is still increasing. About twelve months after the accident he noticed a second swelling of about the size of a nut proceeding from the larger one, which has, at present, attained the size of the large section of a turkey egg. This has all the appearance of a fold of intestine bulging out; it feels quite soft, and the membrane inclosing it forms quite a contrast with the strong and thickened membrane of the other part of the hydrocle. The tumor now measures 15 inches by 17. It imparts a sensation of fluctuation; there is insensibility to pressure, unless in the back part, in the situation of the testis; no transparency, and no impulse on coughing; the chord seems free. Dr. Ryan observed, that in general, hematocele supervenes on hydrocele; but here there has been no operation which might account for blood being thrown out, nor has there been rupture of the hydrocele at an advanced period. If blood have been poured out, it must have been at the period of the original accident. The diagnosis, as regards hernia or diseased testicle, is much aided by the peculiarity of the case. By pushing up the smaller tumor (a thumb and two fingers can easily enter the opening) the thumb enters the tunica vaginalis by a distinct circular opening of four and a half inches in circumferance, with a well-defined margin, through which the fluid passes as a continuation of that within the tunica, and contained as it were within a thin bag prolonged from the edge of the opening, and giving it the appearance of a second tumor starting out from the larger. The thumb is not resisted by any obstruction, but feels as if in the centre of a quantity of fluid free from coagula.

The thickened walls of the tunica can thus also be felt between the thumb and the fingers; the testis also distinctly felt from within, which could from the outside be but very imperfectly defined. It would in this case appear as if the reflexed layer of the tunica vaginalis had been burst at the time of the original accident; and that, before the reparative process could have been completed, fluid was poured out, and pushed before it the reparative distensible layer of plastic lymph already thrown out, and so had, up to the present time, kept gradually distending it.

(Since exhibiting the above case to the Society, Dr. Ryan has operated on the hydrocele in company with Mr. Nunn, and drawn away one quart and about an ouuce of limpid fluid, without any admixture of blood.)

The adjourned Discussion on Chloroform.

Mr. Greenhalgh, who resumed this discussion, stated the results of thirty-two cases which had fallen under his observation, not one of whom was suffering from disease of the heart, brain, or lungs, or was subject to local congestions of any kind. In three the forceps was applied, out of whom one

mother died, five days after delivery, from puerperal fever; all the children were born alive. In one case, turning was had recourse to; child still-born. The remaining twenty-eight cases were natural labours. Eighteen of the children born were females; fourteen males. No hæmorrhage occurred in any case; neither was there any delay or difficulty in the expulsion of the placenta. Two suffered severely from intense headaches for some hours after delivery, one having been subject to hysterical pains in the head for some years; the other had rarely suffered in the head before. In no one case did any permanent ill effects result. The largest amount of chloroform given was two ounces and a half, over a space of nine hours. This, also, was the longest period of inhalation; the shortest being seven minutes; average, about two hours. The respective ages—five, twenty-six; five, thirty; three, thirty-two; three, thirty-four; two, twenty-two; two, twenty-seven; two, thirty-one; two, thirty-eight; one, twenty; one, twenty-three; one, twenty-four; one, twenty-five; one, twenty-nine; one, thirty-three; one, thirty-five; and one, fifty. Numbers of labours: thirteen, second; seven, first; three, fourth; three, sixth; two, third; two, eighth; one, seventh; and one ninth. Temperaments: eight were of the sanguine; seven of the nervous; the remainder of a mixed kind. Three were very stout; two were very thin. Five, although desirous of inhaling this remedy, commenced to breathe it in a highly nervous state, which greatly retarded its action. All the patients had arrived at the full period of utero-gestation. Mr. Greenhalgh, having briefly detailed the particulars of the forceps and turning cases, and given a short account of the effects of this remedy upon the patients during labour, proceeded to draw the following inferences: first, that young children appear to be more susceptible of its influence than those of more mature age; secondly, that females are more readily affected by it than males; thirdly, that the temperaments have but slightly modifying influences, except in the highly hysterical diathesis, in which not unfrequently the most violent excitement is induced, ending in a train of distressing nervous symptoms; fourthly, that drunkards, as a general rule, require a larger dose than those of more sober habits; and fifthly, that lascivious dreams and remarks are of very rare occurrence, the author of these observations having witnessed only two, out of a large number of cases in which chloroform was administered for various purposes. Mr. Greenhalgh concluded by stating, that although this agent is a very powerful and dangerous one,—occasionally, though rarely, producing very alarming, nay fatal effects,—yet if the cases be well selected, the remedy slowly and cautiously administered, and its effects properly watched, it may be advantageously given either in natural or instrumental labour.

Dr. Henry Bennett had administer d chloroform in obstetric cases since its fir t introduction by Professor Simpson, and he was completely and thoroughly in favour of its employment in discriminate cases. He had used it extensively in three classes of cases. First, in those cases in which irritation of the system was kept up by fear or other causes, and the parturient efforts interfered with. In these cases chloroform relieved the distressing symptoms, allayed unnecessary pain, and quickened the labour. Such a case was that of a young woman he had attended with her first child. She had little energy, seemed overwhelmed with pain, and great mental excitement. The head had advanced into the pelvis, but there was excessive irritability, with cerebral symptoms. The pains were wearing and ineffectual. The bad symptoms all gave way under the use of chloroform, and the pains became natural and expulsive. In all such cases, where bleeding and opiates were formerly resorted to, he had found chloroform a much better sedative. This medicine seemed to act directly on the ganglionic system of nerves; that system on which, as Dr. Simpson, he thought, had proved, was mainly effective in the parturient process. At all events, the experiments of Dr. Simpson went far to prove this; for he had found the act of parturition go on in a sow whose spinal cord had been entirely destroyed. The second class of cases in which he used chloroform were those in which operative procedure was necessary to effect delivery; not only did it relieve unnecessary pain in these cases, but facilitated the efforts of the accoucheur in delivering his patient. In simple parturition, in which the labour was natural, he did not give chloroform, except at the request of the patient. In no case had he seen any ill effects fairly attributable to the chloroform; it was true, in one instance a lady died in childbed three weeks after delivery under the influence of chloroform; but here the fatal result was dependent on a very severe organic disease of the heart not discovered during life. He mentioned the case, however, in common fairness in discussion. In one case, also, some slight hæmorrhage had occurred; it was easily arrested, and was not due to the medicine. The third class of cases in which he employed chloroform were those of inflammatory disease of the uterine neck, in which it was necessary to apply caustic or to operate; it relieved pain, fear, and neuralgia, and was most valuable, as it was also in cases after operation had been performed, in relieving pain. He had never seen it lead to scenes of

an indelicate character, or give rise to indecent talk in the woman; on the contrary, he had seen it have a temporary good effect in cases of nymphomania. On the whole, he strongly recommended the use of chloroform; he had three times himself inhaled it for surgical operations. The risk attending its use under proper management was no more than the chance of being thrown out of a railway carriage or steam-boat.

Mr. W. F. Barlow said that the subject might be treated of under two heads—first, was it desirable to relieve the pain of labour? secondly, was it safe? As to the first point, he did not imagine that any one would demur for a moment. He did not expect to hear any one say, that as an abstract matter it was undesirable to relieve pain of any kind. Every one who had seen a number of surgical operations must have had frequent occasions for remarking the peculiar firmness with which many women bore them, even when they were most protracted and severe, and he had heard experienced operators remark, that women endured the pain of a knife, to speak generally, more uncomplainingly than men. However that might be, it was clear enough that there were many women who would not flinch from surgical proceedings, that would express most bitterly the sufferings of parturition, which, though happening in the natural course of things, were oftentimes all but intolerable, and were often made infinitely worse by being spread over so tedious a space. He thought that some persons were too much in the habit of making light of pain, and underrating its complex effects upon the body. Let them turn to Mr. Travers's beautiful work on "Constitutional Irritation," and there read of deaths which seemed to be owing to the shock of pain. Pain had remote effects as well as immediate, and the former were apt to be forgotten. It was very well for those who had no pain to suffer, to talk philosophically of the agonies of others; the remark was quite applicable to the pains of parturition. As to the second and more difficult question—can chloroform be safely administered in labour?—it was one which facts only could determine. He thought that Dr. Murphy was right in rejecting rumours and vague assertions as quite inadmissible in an argumentative discussion. If statements were to be made of deaths from chloroform, and used as arguments against its administion, it was but fair to demand that they should be explicit, and properly supported. If instances of a fatal result were mentioned, something should be said, surely, of the condition of the patient, of the mode in which the chloroform was administered, of the time it was inhaled, and of the state of the respiration and circulation at that period when efforts were first made to avert dissolution.

Mr. Gream spoke at considerable length against the employment of chloroform. He had tried both ether and chloroform himself to some extent when they were first introduced. He was satisfied of their injurious effects. He considered Dr. Murphy had advanced no new facts in his paper, which did not call for special notice. He drew a parallel between the practice of the late Dr. Clarke and Dr. Simpson as to operative midwifery and its results, the balance being in favour of the old plan, without anæsthesia. He quoted the opinions of Collins, Meigs, Montgomery, and others, against the agent, and said that no accoucheur of extensive practice in London used chloroform.

Dr. Webster said, as he did not practise either surgery or midwifery, he had no personal experience respecting the use of chloroform under such circumstances; still, he had paid considerable attention to the subject, and considering it was only by the accumulation of facts relative to the employment of so powerful an agent that we could arrive at any correct knowledge, he would now state some cases which were instructive. Dr. Murphy had said he never saw bad results supervene during the use of chloroform in midwifery. This was important; but he wished to learn if this opinion applied as well to the immediate as to the remote effects produced by the remedy: and especially whether any permanent or transitory impression had ever been produced upon the mental functions of individuals? On this point he (Dr. Webster) could speak with some confidence, and would therefore refer to three cases which had come within his cognizance, showing the serious consequences sometimes following the inhalation of chloroform during child-birth. In the first case, the patient, who had been delivered under the influence of chloroform, was, for three days subsequently, constantly incoherent and rambling. She soon afterwards became perfectly maniacal, and so furious as to require confinement in a lunatic asylum, where she remained for twelve months, when she was discharged cured. In the second case, the patient never recovered from the effects of the chloroform exhibited during her confinement, and soon afterwards became quite maniacal, and continued so for many months, but recovered ultimately. The third case to which he would now allude, by some psychological physicians, might, perhaps, not be considered as a true instance of insanity; however, to remove doubts, he would relate the chief symptoms. The cerebral disturbance following the use of chloroform during delivery never ceased entirely; the patient could not sleep at night for a long time, and often said she felt as if in the presence of a madman who was going to murder her. Three weeks afterwards, she became almost

maniacal, exhibited much mental excitement, laughing frequently; had a strong desire to sing, with other extraordinary feelings; conducted herself like an infant, and lost her memory, in which state she continued during five months, when recovery took place.

Dr. Murphy briefly replied. He was anxious for truth, and was glad to hear of any well-authenticated facts on either side of the question. The names quoted by Mr. Gream were those of practitioners who had not tried chloroform; and therefore their opinions were of little weight. Dr. Webster's cases were not so valuable as they might be, as evidence of the asserted dangers of chloroform, if puerperal mania did not occur sometimes without the use of that agent. Doubtless there were some peculiar constitutions, in which chloroform, as was the case with opium, calomel, &c. could not be given without ill effect. To determine what were these constitutions, in what way to administer the chloroform, and to determine its real value, was, and should be, the object of his inquiries respecting it.

November 10.

Dr. Snow in the Chair.

Removal of a Tumor imbedded in the Parotid Gland.

Mr. Canton related the following case:—A man, aged sixty, had for several years been afflicted with amaurosis of both eyes, for which mercury, strychnine, galvanism, and other remedies, had been ineffectually employed. Some time since he complained of a swelling below the left ear, and which had gradually increased in size. It gave no pain; but by degrees the resulting inconveniences were, difficulty in mastication, deglutition, and great impairment of hearing. The tumor was firmly wedged in between the ramus of the jaw and the mastoid process, extending chiefly towards the angle of the former. The skin over it was healthy and unadherent, and to the touch it was firm and resisting.—*Operation:* The superficial incision was commenced at the zygoma, extended thence, in a curved direction, along the anterior boundary of the tumor, and terminated a little way behind the angle of the jaw. The flap being dissected backwards, the tumor was seized by a double hook; and as traction was therewith made upon it, the knife isolated it from its connexions. A portion of the surrounding parotid gland required to be likewise removed. The depth to which the tumor extended was greater than the extent of its growth superficially; and on removal, it was seen to be an enlarged and apparently fungoid state of a lymphatic gland, inclosed in a strong, fibrous-looking capsule. The hæmorrhage was trivial, and the patient recovered without any paralysis of the face, and with restoration of the power of mastication, deglutition, and hearing.

Mr. Chippendale said that Mr. Canton's case was another illustration of the truth of the well-known surgical axiom, that the parotid gland could not be removed by surgical procedure. He believed that such operation was impossible. Often a lymphatic gland became enlarged in the neighbourhood of the parotid, which, on removal, was considered erroneously to be the parotid itself.

Mr. Haynes Walton narrated the particulars of a large tumor, weighing nearly three pounds, which he removed from the face and neck of a man, aged fifty-six. A cast taken before operation was produced. The disease had existed for seven years. The tumor, also exhibited, had a cavity in its centre. Microscopically, according to Dr. Routh and Dr. Peacock, it presented a fibro-cartilaginous structure. The patient made a good recovery, and returned home in fourteen days. This was adduced as an illustration of the fact, that a tumor, however large, even when over intricate anatomical relations, matters not, surgically speaking, so long as it is free, and does not form connections with important parts. It was well known, that mobility, although the most important test of the isolation of a tumor, is not a certain or entire one. In illustration of this, two cases in particular were mentioned, of tumors in the neck, occurring in the practice of two London surgeons, where the freedom of motion induced their removal to be undertaken with confidence of easy execution: the one was abandoned, the other got away entire, after a most tedious and difficult dissection. Immobility was pointed out as but an equivocal proof of complication, and a cast was exhibited of a tumor of the neck that had been refused operation, under the idea of its being incorporated with the surrounding parts. Mr. Walton operated, and found, as he thought, that the tumor was merely bound down by fascia and platysma. He dwelt on the necessity of great caution in interfering with even non-malignant tumors that were adherent, and alluded to a case full of instruction published in the fortieth volume of the Medical Gazette, where, after death, it was shown, that on account of its extensive adhesions its removal was impossible.

Mr. B. Travers, jun., was interested particularly in the subject of Mr. Walton's paper, having himself on three occasions operated on large tumors of a similar kind. He had also seen operations commenced on growths of this description, and abandoned, from fear of the results. In one of these cases, the tumor was situated in the occipital region, the large arteries in the neighbourhood being involved in the growth. It was

thought advisable not to pursue the incision beyond a certain extent: the parts sloughed, and the patient succumbed. In another case, the tumor was situated close to the air tube; a ligature was applied; the patient died. It was necessary for the surgeon to determine how far he could go in the operation for the removal of growths like Mr. Walton's. In determining this, in the neck, some allowance must be made for the presence of fascia of so thickened a character as to resemble bone; but wherever situated, the anatomical character of the tumor itself was, as a general rule, the best guide that we had. If, like the one exhibited, it stood out from the surrounding parts, was moveable, and covered only by a loose skin, then the chances were, that it would "turn out." If, on the contrary, however, it was lobulated, pressed upon by dense fascia, and sulcated, it was more than probable that, if the growth were not already malignant, it was of a malignant character, and would not be effectually removed by the knife. In growths near the angle of the jaw, the surgeon often experienced great difficulties, and must not be surprised to find the tumor much deeper situated than he had expected. He once exposed the deep artery in this situation, not, he would say, by the removal of the parotid gland, though it was difficult to know how it could have been done without. He thought he had seen portions of the parotid removed, for, when diseased, it was altered in character, and in the circumstances which attended its removal. In these operations, too, we must be prepared for hæmorrhage. When obliged to cut deep, he had always seen much bleeding, and that too, occasionally, of the most troublesome kind, the blood "welling," as it were, from the bottom of the wound, and out of the reach of ligature. He had seen cases in which the hæmorrhage could only be controlled by an assistant keeping his finger in the wound for days and nights. This untoward result, however, was not to deter the surgeon from operating.

Mr. Canton remarked that there were other tumors of the neck besides those described by Mr. Walton, which presented features of great interest to the operating surgeon—*e.g.*, those formed in the substance of the thyroid gland, and even the enlargement of that body itself. The different varieties of these growths were then mentioned, and the operation most likely to benefit each one referred to. With respect to goitre, Mr. Canton believed that when cerebral disturbance supervened, owing to impediment to the free return of blood from the head, together with difficulty in deglutition and respiration from pressure on the œsophagus and trachea, that the plan of making a subcutaneous section of the sterno-hyoid and thyroid muscles might advantageously be had recourse to, inasmuch as they materially retarded the forward growth of the tumor, and were in such cases found to have their fibres separated, so that as broad ribbons they bound down the swelling at its fore part and sides, and thus induced the functional disturbances alluded to. The operation of tying the thyroid arteries was next spoken of. With reference to the tumor in the parotid gland, which Mr. Canton had brought forward, he believed that it was in such instances that extirpation of the secreting gland itself was supposed to have been performed; for the lymphatic tumor in its progress having produced absorption of the part in which it was embedded, the error might be readily fallen into by those who believed in the practicability of the total removal of the parotid.

Obstetric Calculations.

Dr. Tyler Smith exhibited specimens of his *Periodoscope*, manufactured in metal and in ivory; the former by Mr. Weiss, of the Strand, and the latter by Mr. Clarke, of Windmill-street, and made the following remarks respecting it:—

He (Dr. Tyler Smith) referred to the principle of the Periodoscope, and its capability of reducing calendar to lunar, or ovarian months, without the trouble of any calculation whatever. The instrument was useful to two classes of persons—those who confine their attention to the bare fact that the term of pregnancy is 280 days, and those who look on the 280 days as comprising ten regular ovarian periods of twenty-eight days each. To the former it gave a perfect facility of calculation, but to the latter it foretold the probable history and termination of each individual pregnancy and labour, and was of great service in the prevention of abortions, and other accidents of the gravid state. He had found that not only was the term of natural gestation a multiple of the catamenial period, but, in some multiparous females of regular constitutions, the times between their various parturitions might be divided accurately by twenty-eight, if reduced from years and months to days. He had also observed, in cases considered as cases of superfœtation, but which he believed to be generally cases of double uterus, or a retarded twin, that there was a remarkable tendency to regularity in the times of the double parturition. Thus Dr. Fleetwood Churchill gives, in his "Theory and Practice of Midwifery," two cases successively, in which the second child was born respectively 140 and 168 days after the birth of the first. The 140 days are exactly five, and the 168 days exactly six, catamenial periods of twenty-eight days

each. These facts, which could scarcely be accidental, afforded a strong support to the ovarian theory of the cause of labour. Since the invention of the Periodoscope, he had received many communications from eminent obstetricians and practical men largely engaged in midwifery, who assured him that all the calculations respecting the periodicities of the sex were rendered by it, not only more interesting, but far more exact, than by any other method in previous use. Dr. Smith concluded by some observations on the variations of the catamenial period; the occurrence of menstruation during pregnancy, and its connection with abrasion or ulceration of the os and cervix uteri, those diseased parts being, in such cases, the vicarious seat of menstruation.

Mr. GREENHALGH followed the plan of reckoning advised by Dr. Smith, and usually found it correct. He had found the Periodoscope not so useful in determining the time of quickening, as this depended on many accidental circumstances, such as the capacity of the pelvis, &c. He stated that in cases of supposed menstruation during pregnancy, he had found, on examination, some ulceration at the uterine neck, from which, at the catamenial periods, blood was voided.

Dr. RYAN said, it was clear, in his opinion, that regular menstruation did occur occasionally during pregnancy.

Dr. ROGERS had seen a remarkable case of vicarious menstruation, in which blood oozed from the tips of the fingers, &c.

Dr. MERRIMAN said that his father had usually found something peculiar in cases of "menstruation" during pregnancy.

Saturday, November 17.

Tubercular Meningitis in a very Young Child.

Dr. ROGERS exhibited to the Society the lungs of a child, not four months old, who had died of tubercular meningitis (hydrocephalus acutus). They were infiltrated with tubercle in every stage and form, miliary, grey, and yellow, large masses of which, when cut into, were found entirely softened. The bronchial glands were greatly enlarged, infiltrated with tubercle, and diffluent. The principal points of interest in the history were these: mother phthisical; her relatives had died of phthisis. The infant at birth was a fine, large child, apparently healthy, but evidences were quickly developed of the strong constitutional taint, amongst which, cough, continuing during its whole life. It was vaccinated when about ten weeks old; the vesicle became unusually large, and discharged an abundant thin serum; there was but little febrile disturbance, yet before the vesicle had completed all its changes, strabismus, especially of the left eye, supervened; a muco-purulent secretion glued both eyelids; the child appeared, in all other respects, in its usual health, and continued a habit, which it always had, of looking at the fingers of one hand. The head affection was at once properly treated, and the constitution supported, but, notwithstanding, the child gradually wasted, and died four weeks after strabismus had come on: it lay comatose for one day, and convulsions ensued a few hours only before its death. Ulceration of cornea and escape of aqueous humour occurred towards the close of its existence. On post-mortem examination, the brain exhibited all the appearances characteristic of miliary tubercles and puriform deposit. There were two ounces of serum in the ventricles; their lining diffluent; the lungs in the condition mentioned; in pericardium, two drachms of fluid; abdominal organs healthy; but the mesenteric glands enlarged and tuberculous.

The Diagnosis and Treatment of Chronic Diseases of the Skin.

Mr. HUNT, who brought this paper before the Society, endeavoured to prove that little or nothing could be learned of the nature or treatment of chronic diseases of the skin from the mere form of eruption, and that their pathology had been much obscured by the stress laid upon the variations of these appearances, which were little more than the different modes in which inflammation of the dermis terminated, whether in resolution, vesicles, scales, pustules, &c., any of which forms might arise, respectively, either from specific irritation, as in syphilis, or from general cachexia; that the origin was not distinguishable in the form of eruption, both causes inducing various kinds of eruption; that the syphilitic cases must be diagnosed by their history rather than by their hue, and that the evidence of primary affection was often obscure or wanting. The author next drew a distinction between skin disease resulting from contagion, or other external sources of irritation, in which external applications might be useful, and those diseases arising from within, in which external applications could not cure, but might do harm. He then proceeded to describe the management required for the various complications of the eruption; such as febrile action, functional or organic visceral diseases, anæmia, plethora, &c. Lastly, he described the treatment required for the simple spontaneous diseases of the skin, of whatsoever form or appearance, in all of which he had found a judicious and persevering course of arsenic the great remedy. The medicinal action of arsenic was portrayed in four degrees, in the first of which it acted simply as a tonic, improving the appetite, invigorating the strength and spirits, and warming the

extremities; in the second degree exciting the mucous membranes and the skin; in the third degree, acting on the serous membranes, and exhausting the strength; in the fourth, showing its toxical effects in an alarming degree. The first two degrees were described as salutary; the third, injurious; and the fourth, dangerous. In small doses only it acts usefully as a medicine, and the dose should never be increased, but diminished, not discontinued, when the conjunctiva becomes affected. Five minims of Fowler's solution was the maximum dose, which the author always administered on a full stomach, never fasting.

MEDICAL SOCIETY OF LONDON.

Monday, November 19, 1849.

Mr. Hird, President.

Aphorisms on Cholera.

Mr. Dendy read the following propositions as embracing in a few words all that we know of cholera:—

1. The name—Acholera.—Because when cholera or gall-flux is established, the prognosis becomes favourable. 2. It is the first stage of adynamic fever.—Because this fever, in varied degrees, is constantly developed on the subsidence of the flux. 3. The predisposing causes are, anxiety, low living, bad habits, crowded locality, malaria of decomposition.—Because the absence of these is proved to be prophylaxis. 4. It is epidemic, and not essentially contagious.—Because there was a prevalent establishment of the disorder over a large space of the kingdom in a few days. 5. The exciting cause is a poison imbibed or inhaled, influencing the ganglia, the blood, and the bowels, the symptoms enduring until the poison is destroyed or expelled.—Because spasm, discrasis of blood, and intestinal flux, are the consequences, the blood being rendered unfit for circulation and secretion. 6. That premonitory diarrhœa is not an essence of the disease.—Because the epithelial flakes are fewer than in diarrhœa; and we have, periodically, a severe diarrhœa—not formidable, unless a malignant epidemic be prevalent. 7. Diarrhœa renders its subject highly susceptible of the malignant invasion.—Because as the uterus, during parturition, so the mucous membrane, during diarrhœa, is a weak point in the system. 8. The flux would probably be a safety-valve to the system, as the pustule of variola and the exanthem of rubeola, and prove salutary, if the systemic energy were sufficient.—Because many of the highly malignant and speedily fatal cases occurred without the flux, and because, like that of inflammation, its unfettered intensity destroys. 9. The result of the malady depends essentially on the resisting power of the system *quoad* the dose of poison introduced.—Because persons in various conditions, and subject to the same influence, evince symptoms of varied intensity. 10. Prognosis must be formed chiefly from re-establishment of suppressed secretion.—Because this indicates a renovation of the blood, and the elimination of deleterious matters from the system. 10. There is no specific—*i. e.*, antidote—to the poison yet discovered. 11. The adoption of one remedy (?) from isolated experience is unscientific, and its advocacy perilous. 12. The unlimited exhibition of alcohol and opium is unsafe.—Because it is followed so often by fever and narcotism.

Correspondence.

COX, DAVIES, AND SILK *v.* THE MIDLAND RAILWAY COMPANY—NON-LIABILITY OF RAILWAY COMPANIES FOR SURGICAL ASSISTANCE IN ACCIDENTS.

Sir,—As you have previously animadverted upon the conduct of the Midland Railway Company in your journal of April 7th, 1848, I trust you will afford me the opportunity, through the medium of your columns, of bringing the case again before the public; as it has at last terminated in a manner which crowns the whole of the proceedings, by executions being issued by the Company against the plaintiffs for their costs in defending this action, and by my having had an execution put into my house, and my goods and chattels virtually seized in payment of my share of such costs, amounting to £99. 14s., which I have actually paid. I think it only fair that the medical profession and the public—whom I consider vitally interested by the decision upon this important case—should be made acquainted with their relative positions. The decision upon this case clearly shows that the Company are not bound to provide medical assistance to a passenger in case of accident upon their line of railway; that the servants of the Company have no authority to call in medical assistance; and, should they so far overstep their authority as to call in medical assistance, that the Company are not bound to pay the doctor; that the only person the doctor has to look to for payment is the party injured; and, in the event of his being too poor to pay, the only chance the doctor has of being remunerated for his services is by the party injured bringing an action against the Company; and, should he succeed in recovering compensation for the injury, still it remains to the honour of

the party injured whether he will pay the doctor. As it is now quite clear that a medical man has no claim against the Company, I should like to know what medical man under such circumstances (unless he is fully assured of the respectability of the person injured) will volunteer his services to take charge of a railway accident, and run the risk of having a severe and dangerous case under his hands for two or three months, probably at the distance of some three or four miles from his residence.

Since this case has been before the public, I have repeatedly asked several of the porters at the different stations, and likewise several of the guards of the Midland Company, what they should do in case of accident. The answer I have invariably received has been that they did not know what to do,—that *they should do nothing, but leave the parties injured to their fate!*

It appears to me a very hard case that three humble individuals, suing a great and powerful Company for what was fairly and justly due to them for services rendered to a poor unfortunate individual who had met with a most serious and dangerous accident upon their line of railway, and whose life must have fallen a sacrifice but for the most prompt and efficacious medical aid being rendered to him,—and which accident was clearly shown to have arisen from the carelessness of the Company's servants,—should not only be deprived of what was justly due to them, but likewise be called upon to pay the costs of the Company defending the action; more especially when it is taken into account that this case ultimately terminated in favour of the railway upon a point of law which, I believe, had never before been mooted since the introduction of railways—namely, the *non-liability or responsibility* of railway companies for orders actually given by their own servants.

I am, sir,
Yours, &c.
J. Davies, M.D.

Blythe College, Coleshill,
Nov. 12, 1849.

P.S.—For particulars, see *Daily News*, January 18th; the *Times*, January 30th; and *Aris's Birmingham Gazette*, Feb. 5th and March 19th, 1849.

THE NUISANCES ACT AND PAROCHIAL MEDICAL OFFICERS.

Sir,—As medical officer of an extensive parish, I have of late been completely foiled, by our highest local judge, in my endeavours to put down existing nuisances. A certificate, with the accompanying petition and complaint, is no sooner presented, and without entering into the merits of the case, than a remit is made to his two private confidential medical men. On their opinion he then rests his judgment, totally regardless of the parish officer, whose certificate is thus rendered null the instant a contrary opinion is received from the parties pocketing their fee,—and this in the face of the greater experience and practical knowledge of the parish officer.

If I can properly interpret the Nuisances Act, in so far as it applies to Scotland, it expressly and clearly provides that the parish medical officer is the *sole judge of what is and is not a nuisance*, and the legal officer can in nowise interpose, unless where irregular or undue steps are taken by the parish against the party complained of.

And are not these private medical gentlemen to blame? Is it courteous, and in accordance with professional etiquette, for them to interfere in any shape with the duties of a brother in his official capacity? If the parish medical officer is a duly qualified practitioner, and legally appointed to the office, is it not to be presumed that he is capable of following out the provisions of the act, and doing all the duties it requires, better than any private practitioner, who must be unacquainted with the district, and of the evils arising out of many particular nuisances complained of?

You will very much oblige me, as well as many of my parish medical brethren, if you can, in an early number, inform us what really are the nature and extent of our powers in such cases.—I am, &c.

Scrutator.

November 1849.

*** We have referred to the Act (11 and 12th Victoria, cap. 123) under which we presume our correspondent acts, and do not find in it any clause which vests in the parochial officer alone the power of deciding on what is or what is not a nuisance. It is for others to decide from his opinion, and from the opinions of other medical men, who may agree or disagree from the view taken by the parochial officer. In England, such investigations are always carried on openly. There may be conflicting evidence, but no private reference is made: in fact, this secret way of overturning a medical opinion would not be resorted to by any of our police magistrates. Our correspondent is, we believe, without redress, except by an appeal to a higher tribunal against the judicial decision.

THE CHOLERA AT SWANSEA—MICROSCOPICAL OBSERVATIONS.

Sir,—It was far from my desire to have taken any part in the controversy between Mr. Michael and Dr. Williams, nor was I aware of the former gentleman's communication before it had been sent for insertion

to your journal. But as my name has been repeatedly alluded to, I feel reluctantly compelled to address you on the subject, and to give a brief statement of the facts as far as I am acquainted with them.

In October 1848, a case of cholera was attended by Dr. Williams and myself, in St. Mary's Street, in this town; on which occasion we submitted to examination the choleraic discharge: we tested it for albumen, and placed a portion under the microscope, without (so far as my memory serves me) eliciting any definite results. I certainly have no recollection of "witnessing the polygonal confervoid bodies" described and delineated by Dr. Williams in your publication.

In conclusion I would observe, that it is probable Dr. Williams may have continued his researches after my departure, and his belief that I had witnessed his discoveries may have arisen from misconception, and from an erroneous impression on his mind.

I remain, sir,
Your obedient servant,
W. Rowland, F.R.C.S.

Swansea, Nov. 20, 1849.

*** We can insert no more communications on this subject.

MICROSCOPICAL INVESTIGATION OF THE CHOLERA FUNGI.

Sir,—As there has been lately much discussion in the pages of your journal respecting the nature of certain bodies described and figured by me as peculiar to the discharges of cholera, the following particulars respecting these bodies may not be uninteresting to some of your readers. Mr. Busk, it will be remembered, considered them to belong to the genus uredo, although not to the same species as that which he detected in bread. The Report of the Cholera Committee of the College of Physicians, however, went further, and stated distinctly that these bodies were identical with the uredo segetum or bunt. With a view to settle the matter, if possible, I wrote to the Rev. Mr. Berkeley (who is known to be one of the highest authorities upon the natural history of fungi), and sent him specimens of the peculiar bodies in question. By his kind permission I am enabled to communicate the opinion respecting them, which he sent me in reply. He considers that they resemble the spores of some of the truffles, but adds that he is unable to trace any perfect identity between the two, and is yet doubtful as to their precise nature, but that they are "*certainly not the spores of any species of uredo.*" Mr. Hassall, to whom I had sent specimens of these bodies, previously expressed precisely the same opinion. The different views which have been taken of these curious bodies sufficiently show their novel and interesting character, and I trust that already enough has appeared respecting them to absolve my colleagues and myself from the charge of having brought forward what is neither new or true.—I am, sir,

Your obedient servant,
Joseph Griffiths Swayne.

Clifton, Nov. 26, 1849.

*** Whatever judgment may be formed by the profession on the subject, Mr. Swayne and his colleagues are deserving of praise for their earnest endeavour to solve one of the most difficult problems in medicine, *i. e.* the origin and mode of diffusion of malignant cholera.

Medical Intelligence.

THE CONFERENCE AT THE HANOVER SQUARE ROOMS.

A meeting of delegates from the various associations formed for the purpose of procuring a reform of the laws governing the medical profession, took place at the Hanover Square Rooms, on Tuesday, the 20th inst., by the invitation of the Council of the National Institute. The meeting was fully and respectably attended, and comprised many of the most influential general practitioners in the metropolis and the provinces. Nathl. Clifton, Esq., the Vice-President of the National Institute, was moved to the chair.

Letters were read by Mr. Ross from Dr. Tidd, of Oxford; Dr. Hastings, President of the Provincial Association; Mr. Peploe Cartwright, Secretary of the Shropshire Association; Mr. Bowring, Secretary to the Manchester Committee, and the officials of other bodies. There were present, among others, Mr. Propert, Mr. Bowling of Hammersmith, Mr. Dalrymple of Norwich, Mr. Ancell, Mr. Bottomley (Chairman of the Associated Surgeons), Mr. Bird, Mr. Southee of Cambridge, Dr. Webster of Dulwich, Dr. Hodgkin (Chairman of the Committee of Poor-Law Medical Officers, Mr. Flower (Chilcompton), Mr. Thos. Martin of Reigate, Mr. T. H. Smith (St. Mary's Cray), Mr. Hood, and graduates of the Scotch universities.

The Chairman stated that the object of calling together this conference was to procure unanimity of sentiment and action on the part of all the associations engaged in the attempt to obtain a reform of the existing laws by which the profession was governed. He passed in review the proceed-

ings taken by the College of Surgeons in reference to this question since the assembling of the delegates to the conferences at the College of Physicians, and having adverted to the proposed amendment of the charter of the College, as resolved upon by the council, stated that the meeting would have to consider what steps it was necessary to take at this juncture, in order to secure a full measure of justice to the general practitioners.

A lengthened and interesting discussion took place upon the proposed alteration of the Charter of the College of Surgeons, after which it was unanimously resolved,—

"That a deputation from the Conference be appointed for the purpose of ascertaining the extent of the concessions proposed to be granted by the Council of the College of Surgeons in the amendment of the Charter of 1843; also, to submit to the Council the substance of the memoranda as now read by Mr. Bottomley, on the subject of a reform of the constitutition of the College of Surgeons, and such other points in relation thereto as may be considered expedient; and that they report the result to an adjourned meeting of the Conference."

The following gentlemen were appointed members of the deputation:—

Nathl. Clifton, Esq.; John Propert, Esq.; George Bottomley, Esq., Croydon; Rd. Southee, Esq. (Cambridge); Henry Ancell, Esq.; Donald Dalrymple, Esq. (Norwich); James Bird, Esq.; F. Flower, Esq. (Chilcompton); Peploe Cartwright, Esq., Oswestry; Dr. Webster, Dulwich; Thos. Martin, Esq., Reigate; Peter Hood, Esq.; John Bowling, Esq., Hammersmith; and Thos. H. Smith, Esq., St. Mary's Cray.

It was also resolved,—

"That should the answer of the Council of the College of Surgeons be unfavourable, the same deputation do wait on Sir George Grey, to urge upon the Government the importance of an immediate incorporation of the general practitioners into an independent College, and the passing an Act of Parliament to settle the great question of medical reform."

The meeting then adjourned to another day, when they would receive the report of the deputation.*

* In answer to some remarks in reference to the non-appearance of an advertisement respecting this Conference in the columns of the *Lancet*, we have received the following communication from Mr. Ross, the Secretary:—

"The advertisement was not sent to the *Lancet*, it being considered unnecessary to do so, owing to a very general opinion prevailing that it would be of little use, and that it would hardly be worth the cos of insertion; for the other journals being universally read by the profession, it would look very like throwing the money away. So much for the advertisement not appearing in the *Lancet*."

THE CHOLERA AT ORAN.

Oran is in a state of the greatest consternation. 700 soldiers and 3700 civilians have died of the cholera, exclusive of the Jews and Moors. This amounts to about a sixth part of the population. All the shops are closed; business is entirely suspended; fires are made and cannon discharged, and there was lately a grand procession. The cholera is frightful, whole families being swept off. In one house the inhabitants, to the number of 10, all died in one night. The Arabs are also decimated by the disease. Thirty condemned offenders are employed in digging graves, and the bodies are collected every evening in carts. A battalion of tirailleurs, 400 men strong, have lost 200; the 2d African chasseurs, 80. General Cuny has been ill: his aide-de-camp is dead. The four Sisters of Charity have all fallen victims to the scourge.

MORTALITY OF PROFESSIONS FROM THE LATE INVASION OF CHOLERA.

The subjoined table gives a rough approximation to the ratio of deaths by cholera among the several classes of males in the metropolis:—

	Deaths from Cholera.
Gentlemen, and men of independent means	1 in 200
Learned professions . . .	1 ,, 297
Other professions	1 ,, 187
Tradesmen	1 ,, 154
Working men	1 ,, 121

HARVEIAN SOCIETY—OFFICERS ELECTED FOR THE 19TH SESSION, 1849-50.

Presidents.—Dr. Ridge, 37, Cavendish Square; George James Squibb, Esq., 6, Orchard Street, Portman Square.

Treasurer.—Dr. Stroud, 20, Great Coram Street.

Honorary Secretary.—Dr. Powell, 21, Edwards Street, Portman Square.

Councilmen.—Dr. Miller, 40, Welbeck Street; J. G. Forbes, Esq., 14, Devonport Street, Hyde Park; Wm. Richardson, Esq., 17, Radnor Place, Hyde Park.

(Ex officio members inclusive).

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members on the 23rd instant:—S. Whitlow—J. Newham—H. Parker—W. R. Stewart—H. H. Woolhouse—S. G. Evans—J. Weekes.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 22nd Nov., 1849:—William Spence Brown, Strood, Kent—James Mozley Stark, Gainsborough—Fortescue John Morgan, Henley-on-Thames—James Rigby, Stockport, Cheshire—James William Henry Veitch, Portsmouth.

Selections from Journals.

SUDDEN DEATH FROM CHLOROFORM. REPORTED TO THE ACADEMIE DE MEDECINE, BY M. DE CONFEVRON.

Madame Labrune, thirty-three years of age, in good health, applied to M. de Confevron with the request that he would administer chloroform to her previously to the extraction of a tooth, which the dentist stated would be effected with some difficulty.

The patient having been etherized on former occasions for slight surgical operations, by the reporter, without any ill consequences, and being at this time in perfect health, M. de Confevron yielded to her solicitations, not regarding some slight mental emotion which she had shortly before experienced as presenting a sufficient obstacle to the gratification of her wishes.

Having determined to produce only the slightest degree of insensibility, about fifteen grains (one gramme) of chloroform was poured upon a fold of lint the size of a filbert, enclosed in a handkerchief. This was held at a distance from the nostrils by the patient herself.

Its effects were manifested in eight seconds, and the reporter remarked constant winking of the eyelids. The patient repulsed the dentist's hand, making signs that the effect was not complete. She then made four or five fuller inspirations. At that instant M. de Confevron removed the handkerchief, and only took his eyes off her for the instant occupied by placing it on the nearest piece of furniture; but in this brief interval he found the patient's face turned pale, the lips discoloured, her features altered, the eyes turned upwards, the pupils horribly dilated, the jaw closed, the head drawn backwards, the pulse could not be felt, the limbs were all relaxed, and a few inspirations, at long intervals, were the only remaining indications of life.

Every means of restoration were employed for two hours: stimulation of the nostrils by ammonia; frictions of the surface; actual cauterization of the præcordial region; artificial respiration, and galvanism,—all were had recourse to, but without success: the patient was too surely dead.

An examination of the body was made thirty-eight hours after death. The membranes of the brain, and especially the veins of the base of the cranium, were gorged with black fluid blood. The sinuses of the dura mater were also full of blood. The substance of the brain was healthy, and when cut presented very numerous dark bloody points. A considerable quantity of serum filled the base of the cranium and vertebral canal. A notable quantity of *air bubbles* were seen in all the veins of the base of the brain. The heart was flaccid, and a considerable portion of black fluid blood mixed with air bubbles escaped from a puncture made into the left auricle. Air bubbles were also found in all the large veins of the body. The lungs were crepitant throughout, and presented, when cut, a greyish slate colour. The abdomen was distended by gases. The intestines were not examined.

To the preceding relation of this unfortunate case we add an abstract of the remarks appended by the reporter.

Remarks.—This case, possessing of itself a high degree of interest, might be regarded as an isolated fact,—as one of those unfortunate cases occasionally occurring, but from which science reaps but little instruction. It might be said to be one of those rare and inexplicable instances of sudden death from unknown causes, of which other examples may be found in both ancient and modern writers. But viewed, on the other hand, in connection with the cases related by MM. Robert, Barrier, and Gorrè, it acquires immense importance, and leads to very different conclusions. It may be observed in the first place, that facts of this kind have become so multiplied that it is no longer possible to attribute them to any other cause than chloroformization. Omitting all the cases of which we have not the exact details, and confining our attention to those already referred to, it is clearly impossible to arrive at any other conclusion. In all these, the symptoms which preceded death, compared with the necroscopic results, prove the extinction of life to have been owing to a real asphyxia, the direct effect of the special deleterious influence of chloroform on the brain.

In the present instance the patient died as if struck by lightning, despite the small quantity of the vapour inhaled, and the precautions observed. There was no warning, as in M. Gorrè's case, no complaint of sense of suffocation; on the contrary, the patient, at the moment of dying, indicated that the anæsthesia was not complete, and this was shown by her still tightly holding the handkerchief when taken from her.

M. Sedillot has pointed out that the supervention of muscular relaxation is the period at which the administration of the agent should cease; but the preceding case shows that this indication is fallacious. The pulse does not furnish a more certain indication, since, in M. Berrier's case, life and the pulse ceased simultaneously.

The presence of air in the vessels M. de Confevron is disposed to attribute rather to his own forcible efforts to produce artificial respiration, than to the spontaneous development of air in the veins, as a peculiar effect

of *ether*, as supposed by M. Gorrè. The other pathological appearances were distinctly those of asphyxia, resulting from a poisonous influence exerted on the brain.—*Gazette Médicale*, Oct. 20, 1849. χ

ON THE CUTANEOUS AFFECTIONS AND DISEASES OF THE ORGANS OF RESPIRATION AND GENERATION AMONG THE LABOURERS IN THE GERMAN TINDER FACTORIES.

BY J. TERSAUCKY, KANISCHA, HUNGARY.

THE collecting of the various kinds of agaric, and their manufacture into amadou or German tinder, has within the last twenty years formed an active branch of industry in the forest districts of Hungary. The individuals thus occupied are observed to be liable to peculiar forms of disease.

The usual manipulations practised in the preparation of the tinder are as follows:—

The different species of fungi, more particularly *Boletus igniarius* and *B. fomentarius*, are torn from the trunks of fallen and standing trees, and from stumps, roots, &c., by means of appropriate tools, for the most part by an iron hook fixed at the end of a pole; they are then collected and stored away in large chambers or vaults, where, from their own moisture, they are allowed to undergo spontaneous fermentation. In order to hasten this fermentation all the doors and windows are closed, and every communication between the enclosed and the external atmosphere is cut off. The enclosed air becomes loaded with vapour, liberated by the decomposition of the fungi, its temperature rises, and it becomes thoroughly impregnated with mephitic effluvia; the fungi become heated, moist, soft, swollen, and partly decayed; and their surface becomes covered with a rich yellow mould. When the fermentation has reached what is considered the proper point, it is arrested, lest the fungi should be altogether destroyed. They are next brought into the open air, and exposed to the heat of the sun, and to strong currents of air, in order to dry them as much as possible; when quite dry they are removed to spacious chambers, exposed to a constant draught of air, and assiduously turned about by large shovels until ready to undergo subsequent manipulations: these consist in the careful separation of the ligneous under-surface and hard epidermis of the fungus; in beating the substance which remains; and lastly, in *macerating* the same. This *maceration*, the final operation in the preparation of the tinder, is at present almost entirely relinquished in the Hungarian factories. The fungus is merely beaten, cut up, and then exported to other countries in quantities of many tons yearly.

The fungus-gatherers soon exhibit the injurious influence of their occupation. The juices which abound in these parasitic growths during the summer, falling on the hands and faces of the persons employed in gathering them, excoriate and produce an obstinate chronic inflammation of the skin, exfoliation of the cuticle, separation of the nails, and paronychia.

But these labourers are exposed to far more serious and lasting injury in cutting and beating the tinder. The agent which proves so noxious in these two manipulations is the vegetable mould which is developed during fermentation, and is separated in the form of a fine light dust, with which the atmosphere becomes loaded, and to the injurious influence of which the skin and a part of the mucous membrane are constantly exposed. This mould invests the entire surface of the fungi which have undergone fermentation with beard-like tufts of filaments, about two inches in length, of a white, dull yellow, rust, or copper colour; some also are of a brownish colour, and some even variegated. The white have the least injurious influence; the yellow are more noxious, the brown still more so, and the most injurious of all are the rust or copper-coloured, which also being the lightest, most readily impregnate the atmosphere. The drier the fungi, the smaller and lighter the dust which results from the beating. If the fungi be moistened before beating, the mould then adheres to the fragments; but when the moisture has evaporated, the dust floats in the air as with the dry fungi.

The face suffers sooner than any other part of the body. The eyelids become red, tender, and swollen: this state of irritation extends from the eyelids to the globes, which become injected and intolerant of light. There is also a constant flow of tears. In a short time other parts of the face become affected. Yellow vesicles, of the size of millet seeds, with inflamed bases, appear, either scattered or in groups: they burst and yield a viscid fluid, and when the scab which forms is removed, the skin beneath is found ulcerated and suppurating.

Simultaneously with this eruption epistaxis occurs, as often as twenty times a day in some instances; the nose itself is prodigiously swollen, of a shining red colour, itches intolerably, and runs unceasingly: the nasal cavity is narrowed by tumefaction of the mucous membrane. In a few cases ozæna has supervened, by which the cartilages and soft parts of the nose have been completely destroyed.

In some cases these morbid phenomena are accompanied with a degree of fever, which, however, is often diminished by the epistaxis. All the preceding symptoms are generally present, while in the worst cases

the exposed parts of the neck and ears are also implicated.

The respiratory organs, next to the face, suffer most from the prejudicial influence of this occupation, and their affections are necessarily far more dangerous; they appear earlier in proportion as the fungus is dry: in other words, the lighter the mould-dust which loads the air, and more especially according as the copper or rust-coloured mould predominates. A short cough is soon excited if the workmen remain in the thus polluted atmosphere: there is hoarseness, accompanied with a sense of burning in the throat; the cough increases in severity, and it is attended with pain in the chest, and hæmoptysis. Not unfrequently shreds of detached epithelium of the mucous membrane of the trachea or bronchi have been expectorated.

A third class of morbid phenomena is met with among these labourers, more annoying than dangerous, but occurring as often as those already mentioned: these are affections of the organs of generation. The tinder-cutters sit on the ground, with a low block between their legs, on which they cut the fungus, so that the fragments fall on the ground between their feet: thus the external organs of generation are constantly exposed to the noxious influeuce of the dust, which is so fine that it penetrates the thickest garments. At first only a slight itching of the scrotum is felt: this increases to an intensely burning sensation; the whole of the scrotum becomes red and swollen; pustules appear, which burst and form scabs. It is remarkable that the integuments of the penis are only obnoxious to this morbid condition where this organ joins the scrotum, *i. e.*, on the inferior aspect, and not on its dorsum. The painful itching and burning produce restlessness, and an irresistible desire to scratch the parts, which only aggravates the evil. When the day's work is over, the sufferers eagerly throw off their trowsers to get rid of their contact with the tender organs.

The women employed in washing the tinder are exposed to the same diseases if they work in the same room with the cutters, but are exempted from them by working in a separate chamber. When as in the former case they are exposed to the same atmosphere as the men, they suffer from similar affections of the head and chest, and from affections of the genitals: strangury, sanguineous and purulent discharges from the labia and vagina, which might be mistaken for syphilis.

A young woman, who had suffered for three years from amenorrhœa, and in whom medical aid had failed to restore the catamenia, experienced a restoration of the uterine functions after having worked only a week in one of these factories: whence it appears that the mould-dust has emmenagogue properties.

Neither sex, age, temperament, nor constitution, exercises any considerable influence on these morbid conditions; their occurrence does not protect individuals from another attack: with regard to their intensity and duration they exhibit considerable variety.

For the cure of those maladies it is in the first place indispensable that the work be for the time abandoned: the affections of the chest, by their duration or recurrence, lay the foundation of general derangement of the constitution, and give rise to attacks of chronic bronchitis, hæmoptysis, asthma, hydrothorax, and phthisis.

Experiments have been instituted in order to ascertain how far the workmen can be protected from the morbific influences of the dust. The measure first adopted was to moisten the fungus before cutting; the benefit of this proceeding was evident; but as already observed, it was not entirely efficient, since when the water has evaporated from the fragments the atmosphere becomes again loaded with the dust.

In other experiments the labourers were protected, before going to work, by smearing the nose and scrotum with oil, by drinking oil on the commencement of the cough, and powdering the eruption with hair powder: the result, however, has not proved favourable. Much more beneficial effects have followed the frequently washing of the mouth and nostrils with ice-cold water, drinking yolk of egg mixed with barley water, and washing the genitals with a decoction of hemlock. The last plan is beneficial to prevent the occurrence of the eruption. The affections of the respiratory organs require to be treated according to established therapeutical rules.

In order to test the accuracy of the preceding observations, Dr. Tersaucky experimented upon himself with some of the mould dust, and experienced analogous results in his own person.—*Oesterreichische medicinische Wochenschrift.*

THE NATURE OF CEPHALÆMATOMATA, AND THEIR REMOVAL BY ABSORPTION.

M. Chassaignac, surgeon to the Hôpital des Enfans-trouvés, from the opportunities which he has enjoyed of investigating the nature of the sanguineous tumors on the heads of infants, both during life and after death, arrives at the following conclusions;

1. The effusion, when allowed to remain unopened, becomes encysted by the formation of two new membranes, the one between the effusion and the bone, the other between the effusion and the periosteum.

2. The membrane which separates the effusion from the bone assumes all the characters of periosteum.

3. The bony ring which encircles the base of the tumor diminishes in size in proportion as the effusion disappears.

4. This migration of the bony circle is effected by absorption from the outer circumference, and the reproduction of osseous tissue at the internal circumference of the ring.

5. Cephalæmatomata should not be operated upon unless they have existed so long as to leave no hope of spontaneous absorption, on account of the risk of producing suppuration.

6. In new-born infants absorption is active, and these tumors are generally spontaneously removed by absorption.—*Bulletin Général de Thérapeutique.*

*** In Vol. i. New Series of the London Medical Gazette, pp. 1082, 1258, 1260, several cases of cephalæmatomata are related, which confirm M. Chassaignac's opinion that it is unnecessary to open these tumors; but that, at the same time, the danger to be apprehended is not so great as the author supposes.

We have watched several of these tumors without observing the progressive contraction of the bony (or callous?) ridge described in the author's third and fourth conclusions. In the cases which we have witnessed, this ring was gradually absorbed *in situ.*

The causes which have been assigned for these tumors are unsatisfactory. If they were produced by pressure on the parietal protuberance during birth, we should expect to meet with them more frequently. Dr. West (Med. Gaz. vol. iv. N.S. p. 1059) assigns them to pressure of the edges of the os uteri; but in the last case we met with, three were present, one on each parietal protuberance, and one on the spine of the occiput. The position of the latter excludes the idea of its origin from this kind of pressure. All three disappeared in the course of three weeks, without the employment of any curative means. χ

WOUND OF THE AORTA THROUGH THE ŒSOPHAGUS BY A SPICULUM OF BONE DURING THE ACT OF SWALLOWING.

The following singular case of death from a wound of the aorta has been recently communicated to the *Provincial Journal* by Mr. W. F. Morgan, Surgeon to the Bristol Infirmary:—

I was sent for late in the evening to a lady, 60 years of age. She was suffering from acute shooting pain in the epigastric region, increased by any movement, and especially by the act of deglutition. Pressure by the fingers also increased the pain, but pressure by the hand rather lessened it. She was much distressed, and anxious for relief. There was no other symptom of illness. The pain had commenced suddenly, during her dinner, and was considered by herself and those who were with her to be one of her usual attacks of "spasm in the stomach." It was stated that she had taken some vegetable matter hastily, which lodged for a short time in the chest before it passed into the stomach, but she felt nothing from it except a transient soreness, and it was not until afterwards that the pain came on. In a few minutes vomiting took place, and the pain had continued in spite of mustard poultices and other means. Notwithstanding the conviction of the patient and her friends that it was only one of her old neuralgic seizures, and that it was impossible she could have swallowed any foreign body, I strongly suspected the existence of a pin or something sharp sticking in the upper part of the stomach. The localization of pain to a point just below the ensiform cartilage, its shooting or pricking character, its aggravation by every movement, and particularly by the act of deglutition, and its first occurrence after dinner, were not improbable grounds for such an inference. She remained much the same for eight days, the pain continuing, more or less, in the same spot, and being of the same character. For two days, however, she was decidedly better, during which period she had a similar pain in the face and shoulders, which rather confirmed the impression that it was a neuralgic attack. The pulse had no increased frequency; the tongue was clean; the skin cool; there was no thirst or sickness. The only symptoms present were the epigastric pain and anorexia, with want of sleep, from the severity of the pain, although she had large doses of morphia. A variety of treatment was tried in vain. On the morning of the 9th day, as she was leaving her bed for the night table, she became very faint, and fell on the floor. I saw her shortly, and found her almost pulseless, and very pallid. The liberal administration of stimulants somewhat restored her, and then for the first time since the day of the accident she was sick, and vomited about six ounces of fluid arterial blood; she had also passed from the bowels during syncope a small quantity of dark blood, like treacle in colour and consistence. The pain, which had returned as bad as ever, had now entirely ceased, and, excepting a sense of great weakness, she felt quite well, and wanted food. During the next forty-eight hours she passed three or four motions, consisting chiefly of the same black matter, but there was no return of sickness. She gradually recovered, to a considerable degree, from the state of

faintness, enjoyed her food, wanted to sit up, and remained free from pain. During the last night of her life she slept comfortably, and awoke at five in the morning with sickness. She vomited about eight ounces of fluid arterial blood, and immediately expired. Her death took place ten days from the date of the accident, and forty-eight hours from the commencement of syncope.

An examination was readily obtained, which cleared away all doubt as to the nature of the case. The stomach was distended by an immense coagulum of fluid blood, recently effused. The colon was distended in like manner throughout the whole of its extent, by the same kind of black treacly matter which had passed during life, evidently blood acted upon by the intestinal acids, and probably effused some time before. The small intestines were free from blood. Not the slightest lesion, nor any morbid appearance, could be detected in the stomach or bowels. On slitting up the œsophagus an opening was observed, through which a probe could be passed into the descending aorta, an inch below the left subclavian artery, the œsophagus and aorta being close together. The opening was the third of an inch in length, with torn and irregular edges. The wound of the aorta was smaller, and situated rather lower, so as to make the communication somewhat valvular; on the opposite side of the œsophagus was an abrasion of the mucous coat, evidently caused by local injury.

Thus, then, the cause of death was sufficiently manifest. It was clear that a wound had been made by some foreign body lodging in the œsophagus, and perforating the aorta through it. On carefully examining the contents of the stomach and bowels, a small piece of bone was found, which I have little doubt was the cause. It was thin, but strong, of an irregular outline, half an inch in length, and a quarter of an inch wide at the centre, becoming narrower at each end. It had been probably longer and more pointed originally.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·75
„ „ „ Thermometer[a]	43·3
Self-registering do.[b] ....Max. 53·	Min. 42·1

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·37.— Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was half a degree *above* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Nov. 24.

Births.	Deaths.	*Av. of 5 Aut.*
Males.... 778	Males.... 425	Males.... 583
Females.. 679	Females.. 467	Females.. 579
1457	892	1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	892	1162
Specified Causes	872	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	178	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	54	49
3. Brain, Spinal Marrow, Nerves, and Senses	101	125
4. Heart and Bloodvessels.....	40	40
5. Lungs and organs of Respiration	170	214
6. Stomach, Liver, &c.	56	65
7. Diseases of the Kidneys, &c.	9	11
8. Childbirth, Diseases of Uterus, &c.	8	10
9. Rheumatism, Diseases of Bones, Joints, &c.	4	8
10. Skin.....	1	1
11. Old Age	35	57
12. Sudden Deaths.....	13	12
13. Violence, Privation, Cold, &c....	14	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	17	Convulsions.....	35
Measles.....	30	Bronchitis	60
Scarlatina	35	Pneumonia	82
Hooping-cough	12	Phthisis 104	
Diarrhœa.....	16	Lungs	8
Cholera.....	2	Teething	11
Typhus.....	34	Stomach	7
Dropsy.....	22	Liver.....	8
Hydrocephalus	27		
Apoplexy	16	Childbirth	2
Paralysis	21	Uterus	1

Remarks.—The total number of deaths was 270 *below* the weekly autumnal average. The deaths from cholera were only 2, to a weekly average of 8.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

(The List will be given in our next No.)

NOTICES TO CORRESPONDENTS.

Mr. Sands Cox.—As the letter of the Railway Abuses' advocate will find no place in our columns, it is not necessary to insert the reply. Mr. Cox's character stands too high with the profession to suffer by a personal attack of this kind. There is no case so bad that it will not find a defender, and the party referred to by Mr. Cox is only imitating the Old Bailey advocates. We have noticed the subject elsewhere. The petition will be inserted.

Mr. Ford (Seychelles).—Our correspondent will be so good as to state in what way the journal is to be forwarded to him, and to furnish the publishers with a reference.

The papers of Drs. Shapter, Babington, and Cumming, have been unavoidably postponed until next week.

Communications have been received from Dr. Nankivell, Mr. Lonsdale, and Mr. Kirk of Glasgow. These will have early insertion.

MEDICAL SOCIETY

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXXII.

THE VENEREAL DISEASE.

Gonorrhœa (*continued*).—*Paraphymosis—nature of—most common in children—case—Balanitis may produce paraphymosis—treatment—Ricord's treatment of urethritis—Chronic gonorrhœa—use of injections—Gonorrhœal ophthalmia—question whether produced by metastasis or by contact of purulent discharge—treatment—Gonorrhœal rheumatism, thought by some to be the effect of balsam of copaiba—treatment—Stricture in the urethra—how produced—effect in some cases—Inflammation of the prostate gland—symptoms—treatment—Inflammation of the testicles—treatment—Condylomatous and warty growths as a consequence of gonorrhœa—treatment—excision of—Gleet—symptoms—treatment—Gonorrhœa in women—Diagnosis—treatment.*

Paraphymosis.—This is a condition exactly the reverse of that which I described in my last lecture; for here the prepuce having got behind the glans cannot be brought forward: this disease is, I believe, never congenital, strictly speaking; that is to say, there is never more than a congenital tendency to paraphymosis in consequence of extreme tightness of the prepuce. It is a condition not uncommon in children. The prepuce gets accidentally drawn back and cannot be returned: violent inflammation sets in, and paraphymosis is the result. I was once called in to see a child who had by some means got a brass ring on his penis: a surgeon had been sent for before, but owing to the swelling that had taken place he had not detected the ring. When I first saw the patient I was much alarmed at the excessive degree of inflammation and turgescence present, which had indeed risen to a height that threatened sloughing of the glans: the constriction of the part was so great that I at once suspected it to be caused by some mechanical force, and after closely examining the part I detected the ring. With considerable difficulty I cut through it with a pair of nippers, and in a short time, under proper antiphlogistic treatment, the child perfectly recovered.

Balanitis, or external gonorrhœa, may produce paraphymosis: in that case the inflammation and uneasiness are at first but trifling, and they increase slowly; after a time, however, the inflammation becomes more acute, and the swelling and pain very severe. The first thing to be done in a case of paraphymosis is to endeavour to relieve the constriction by returning the glans within the prepuce: this may generally be effected by taking the penis between the first and second fingers of both hands, and then, pressing upon the glans with the thumb, draw forward the prepuce with the fingers at the same moment. This cannot, however, always be done: in such cases ice ought to be applied, or perhaps blood taken if the patient be in a condition to bear it: if the symptoms be so urgent as to render it unadvisable to await the operation of the above means, the prepuce must be divided. I usually make an incision on the dorsum of the penis, cutting carefully down to the corpus cavernosum; but Ricord has proposed a new operation: he tells us that the parts should be divided on both sides, and this for two reasons: there is not the same liability to hæmorrhage as when the incision is made in the centre of the dorsum, and at the same time the constriction is more effectually achieved. This must be evident, for it is caused by a deposition of adhesive matter, with subcutaneous cellular tissue, and by dividing it on both sides you necessarily produce greater relaxation by cutting into two parts of the adventitious matter instead of one. The operation for paraphymosis does not lead to the same amount of deformity as is produced by slitting open a phymosis.

In the treatment of urethritis, or external gonorrhœa, Ricord recommends that in the first stage of the disorder we should employ what he calls his "abortive treatment." He tells us that if corrosive sublimate or nitrate of silver be applied to the inflamed surface, the disease will be stopped at once; but it appears to me that these remarks can only apply to cases in which the disease had been produced by the action of a specific virus. We have already seen that the application of chemical or even mechanical irritants to the urethra will produce gonorrhœal discharge; we should therefore be led to expect that the use of bichloride of mercury or nitrate of silver in the manner recommended by Ricord, would be likely to aggravate the symptoms of the disease, instead of in any way checking or removing them; unless, indeed, the inflammatory symptoms be first subdued by strict antiphlogistic means.

When the inflammation reaches the lacuna magna, it sometimes produces abscess in that

part: these I have even known to burst outwards, producing what may properly enough be termed a hypospadius, although that term is generally employed to signify a congenital malformation: when the abscesses burst in the manner I have mentioned, the opening heals up with very great difficulty.

In gonorrhœa there are five principal points in the affected organs, in which the inflammation seems to develope itself as the disease progresses. These are the fossa navicularis, lacuna magna, bulb of the urethra, membranous portion of the urethra, and about the prostate gland. The inflammation which attacks these different regions is generally acute under all the conditions of gonorrhœa, but it sometimes passes into the chronic state; by means of the treatment I have already described—viz. by bleeding, the use of antimony, recumbent posture, and afterwards the mixture I have mentioned in an early part of this lecture, I believe that most cases of gonorrhœa may be cured in from ten days to a fortnight: in some cases, however, the disease will, in spite of treatment, take the chronic form, and these will often be found very difficult to cure. When the disease has become chronic, injections of various kinds are recommended, but it seems to me that these fail quite as often as they succeed in producing a cure: indeed, the action of injections in gonorrhœa is a subject involved in obscurity, and always attended by more or less uncertainty.

Sedative injections will, however, probably always be of service when the inflammation is considerable, as they almost immediately give relief to the pain. Liquor Plumbi Diacetatis, ℥xx.; and Water, ℥jss., is a very good sedative injection. When thrown into the urethra it should be kept in for some time by compressing the end of the penis. When the inflammation is very severe, emollient injections may also be useful, as they impart to the internal surface of the urethra a protective coating against the irritative effect of the urine. Irritating injections must not be employed where there is much inflammation, particularly when there is any constitutional tendency to irritability, nor when the inflammation has extended to the testicles or bladder, which is known by the tenderness of the parts, and a constant inclination to make water: they should also be avoided when there is a probability that the perineum will suppurate. Irritative injections often produce a good effect in constitutions that are not very irritable, and where the disease appears under a mild form. A grain of bichloride of mercury, in eight ounces of distilled water, is a good injection of this kind: its strength may be somewhat increased as the treatment goes on, if it should not at first be found effectual.

Gonorrhœal ophthalmia. — Gonorrhœa does not always confine its morbid influence to the urethra and other neighbouring organs; but various complications of the disease sometimes occur,—such, for instance, as gonorrhœal ophthhalmia: this is not, however, a common affection, and it even appears doubtful whether it be the consequence of a metastasis from the urethra: it certainly generally happens that during the discharge from the conjunctiva that, from the urethra is checked, but it is not improbable that the effect may here be produced by the remedies applied to cure the ocular disease, and not from any metastic action; and I am inclined to believe that ophthalmic gonorrhœa is only produced by direct contact of some of the matter from the urethra, with the mucous membrane of the eyes, concurring probably with a catarrhal diathesis. This form of gonorrhœa must be healed in the same manner as the ordinary disease, excepting that the treatment must be more active, and if granulations spring up they must be immediately removed by nitrate of silver. I remember Sir Astley Cooper used to employ a lotion which he considered very efficacious in this disease: it was prepared by adding alum to milk, which was consequently separated into whey and a curdled mass, the former was employed as wash for the eyes.

Gonorrhœal Rheumatism.—This is another not unfrequent result of gonorrhœa; but it has been stated that it only occurs in cases in which balsam of copaiba had been administered. The copabia seems to establish a tendency to inflammation of the synovial membranes; and those who advocate the use of cubebs in preference to copaiba employ this as an argument in favour of the former. I must acknowledge that, in all the cases of gonorrhœal rheumatism I have seen, copaiba had been given in an early stage of the original disease; and, if it continue to be employed, it greatly aggravates the rheumatic symptoms. Such cases are not, however, sufficiently common to enable one to acquire much experience upon the subject. Gonorrhœal rheumatism is very difficult to cure, generally, the subjects cannot bear depletion, and colchicum does not seem to exercise any influence over the disorder. Calomel and opium ought to be given, and iodide of potassium and liquor potassæ are also of considerable service. Indeed, any of the remedies which give tone to the stomach will be found useful in these cases, as they are always, I believe, marked by disorder of the digestive organs and bowels.

Stricture of the urethra is a common sequel to gonorrhœa; but it is not in the acute stage of the disease that stricture is

produced. In the commencement of gonorrhœa you will rarely meet with more than spasmodic dysuria; permanent stricture is only the result of the chronic inflammation when the submucous cellular tissue becomes inflamed, and this inflammation lasts for a long time; the capillaries take on a morbid formation, secreting an adventitious matter, which, encroaching upon the lining of the urethra, causes a narrowing of that canal, stricture being consequently produced. Some believe that stricture is the effect of using injections, but I do not myself hold this opinion. I think it rather arises from the morbid action being allowed to continue unchecked for a considerable time, and that the chronic inflammation brings about the change in capillary action I have described above. After the inflammation has taken on the chronic form, the urethra sometimes becomes so much altered in structure that the mucous membrane ulcerates, the urine extravasates into the cellular tissue, and an abscess is the result; this ultimately bursts, and, if in the penis, leads to what I have already mentioned—a hypospadius or fistulous opening, very difficult to heal. The best mode of treatment is to draw off the water with a catheter for some time, and afterwards, when the inflammation has subsided, a plastic operation may be performed, as I remarked in my last lecture. This is sometimes successful, but cannot be relied upon with confidence. The inflammation in gonorrhœa sometimes extends itself to the prostate gland, producing pain in the perineum, and other urgent symptoms. This condition requires to be treated with active remedies; for if the inflammation be allowed to continue in the part, there is danger of its becoming chronic, which is very difficult to remove, and which may, indeed, lead to abscess, and a very lengthened period of suffering. There is no form of disease resulting from gonorrhœa more distressing to the patient or more difficult to remove than chronic inflammation of the prostate gland. It is indicated by difficulty in micturition, deep-seated pain in perineo, intolerance of the sitting posture, and obstruction to the action of defecation. Cupping in the perineum or leeches, calomel and opium, narcotic suppositories, and frequent use of the warm bath, are the means to be employed, and during the treatment the patient should be kept in the recumbent position, with the use of catheters and bougies. In a late stage of gonorrhœal inflammation the testicles may become involved in the disorder; when this happens, orchitis, or inflammation of the testicles, is the consequence. This is supposed to be produced by metastasis of inflammation; and this view is strengthened by the fact that the discharge from the urethra ceases as soon as the inflammation in the testicle commences. It seems to me, however, that it is mere extension of inflammation, arising from direct continuity of structure; and it generally happens, when the inflammation has previously reached the prostate gland, it then extends along the vas deferens to the testicle, generally attacking the epididym is first. When the inflammation has reached the testicle the latter becomes swollen, and is very painful; and there is hardening, which is generally confined to the epididymoften extending to the testicle, and even to the spermatic cord. It is said that in this affection the pain is dull and obtuse, and rather resembles that experienced when the testicle is squeezed. The discharge from the urethra stops when the inflammation in the testicles sets in. This latter condition must be relieved immediately. Prompt treatment must therefore be adopted. Blood should be taken by cupping from the loins, and afterwards leeches applied to the scrotum, or a few veins may be opened on its surface. The following lotion may then be employed. The part should be kept constantly wetted by it:—℞. Ammon. Hydrochlor. ʒj. to ʒjss.; Liquor. Ammon. Acet. ʒj.; Spirit. Vini rectif. aa. Aquæ Distil. ℥j. M. Ft. lotio sæpe applicanda. In the treatment of orchitis arising from gonorrhœa I have always given calomel and opium, although it is generally said that mercury ought not to be employed. I have, however, always found that if the inflammation be subdued by any other remedies, it is liable to return, which is not so often the case when calomel and opium have been given. It may be thought that opium alone would produce the effect, but such is not the case. I have myself tried it, and found it perfectly unsuccessful. Not that I give the mercury as a specific; I only use it as what seems to me an effectual means of preventing recurrence of the inflammation. Should the discharge from the urethra not return after the above treatment has been employed for the relief of the orchitis, hot fomentations should be applied for the purpose of producing its recurrence; and upon the reappearance of the discharge all symptoms of the inflammation of the testicle usually disappear.

In long-standing cases of gonorrhœa you will sometimes observe condylomatous growths about the scrotum, perineum, and verge of the anus: these can generally be cured by an application of the yellow wash. Warts often follow also upon a gonorrhœa, in cases where the disease commences externally—that is to say, in Balanitis. In the first instance they are found in points where the mucous membrane has been abraded: warty granulations spring up from these points. Whenever these warts are

present with phymosis, the prepuce must be laid open immediately: this is always necessary. Sometimes these warts are very difficult to cure. When they have narrow peduncular necks, a ligature may be used to remove them: in other cases caustic should be applied to them, and savine powder may also be employed as an escharotic. Sometimes, however, neither caustic nor savine powder will remove these warty excrescences: they must then be excised, and caustic applied to the surface from which they are removed.

Gleet.—Perhaps the most troublesome of all the consequences of gonorrhœa is gleet: this is the discharge which so frcquently follows upon gonorrhœa, and often continues even for years. Gleet consists in a limpid discharge from the urethra, different from that in gonorrhœa: it appears to be, indeed, nothing more than an excessive secretion of mucus. Ricord states that the fluid in gleet cannot produce inflammation of the mucous membrane in another individual. I do not myself quite enter into his view, as I believe that any discharge of this kind may produce gonorrhœal inflammation in constitutions where there exists what has been spoken of as the catarrhal tendency or diathesis; and although Ricord states that a man may safely marry while suffering from a gleet, I do not think that such a proceeding would be justifiable.

Gleet is a very chronic disease, and extremely difficult to cure. I think it depends upon a thickening of the mucous membrane of the urethra, and an altered action of its capillaries, and I have often found a slight elevation at the bulb in these cases.

I have often succeeded in curing gleet by passing a catheter bcsmeared with an ointment made by mixing Ung. Hydrarg. Nitrat. 3j. and Ung. Cetacei, 3j.; it must, however, be looked upon as a disease very obstinate and difficult to remove, and sometimes continues for the remainder of the life of the patient, particularly in persons of gouty diathesis.

Gonorrhœa is a disease to which women are equally liable with men, but in the former it is much less distressing and painful, and it is also not so likely to lead to concomitant affections. There is generally some difficulty in ascertaining with certainty the existence of this disease in the female, from their liability to a discharge from the vagina very similar to that in gonorrhœa. It may be supposed that there would be no difficulty in distinguishing the discharge in leucorrhœa from that in gonorrhœa; but, in addition to the difficulty that always exists in distinguishing pus from mucus, it must be remembered that in leucorrhœa the fluid often puts on a pus-like character. The examination of the affected organs does not furnish the information we are seeking; for it is stated by John Hunter, who had examined, in more than one instance, women who confessed to the disease, that there is no difference in the appearances of these and similar organs in women perfectly sound. There are, however, two or three points by which the disorder may generally be recognised with tolerable certainty: first, the woman can produce a similar attack on men having intercourse with her; and, secondly, leucorrhœa produces symptoms that differ in many respects from those in gonorrhœa. With the latter disease women are seldom incapacitated from following their usual occupations, and it does not produce the great debility encountered in leucorrhœa, in which there is also pain in the back, lassitude, headaches, and painful menstruation. In women, gonorrhœa seems to principally attack the vagina, but at the same time it produces a great soreness of the inside of the labia and other neighbouring parts: this produces difficulty in walking, and also pain when sitting; the bladder, and even the kidneys, may become involved in the disease, and the glands of the part often swell, and occasionally small abscesses form in them, and burst into the vagina. The treatment of gonorrhœa in the female is in almost every respect the same as in man, but it is generally more easily cured.

AMERICAN MEDICAL STUDENTS.

Some young gentlemen are endowed with an instinctive prudence in respect to excessive study, which relieves their preceptors of all anxiety about their health, so far as danger from that error is concerned. Were these never to read until the yearning for knowledge became too powerful to resist, a whole session would hardly suffice for the accomplishment of a course of study more extensive than that comprised in Patrick Henry's library, which was said to have consisted of Blackstone's Commentaries, Shakspeare's Plays, a bottle of brandy, and a fiddle; and the end of their college terms would find them in possession of an amount of medical knowledge second in extent and accuracy only to that of Dame Quickly, who described Falstaff's fatal sickness as a "burning quotidian tertian." As a general rule, it is not profitable to read when the attention can no longer be fixed without painful and repeated efforts. It is better, in such cases, to relieve the wearied mind by some less irksome study or rational recreation. Of course it is not to be understood that a student should not read except when vehemently inclined to it. —*Professor Bond's Introductory Lecture, in American Journal of Dental Science.*

Original Communications.

FUNGOID THEORY OF CHOLERA.

NOTES OF SOME OBSERVATIONS ON THE EVACUATIONS AND INGESTA OF CHOLERA PATIENTS.

By Thos. Shapter, M.D.,
Physician to the Devon and Exeter Hospital;
And William Clapp, F.R.C.S.,
House-Surgeon.

The following short narrative of some investigations upon the "Fungoid Theory of Cholera" may not, perhaps, prove uninteresting at this moment. They will be found strongly corroborative of the conclusions arrived at by the Sub-committee of the College of Physicians.

On the 22nd of September we had the advantage of seeing for a short time a specimen of the "fungi" prepared by Mr. Swayne, together with an original drawing furnished by him. Immediately subsequent to this we were enabled to examine various specimens of the matters vomited and dejected by some persons affected with cholera in this city. In these we saw cells of various kinds,—some nucleated, some spherical, with slight single thin rims. We also saw starch cells mingled freely with what we then considered portions of abraded mucous membrane, or fragments of epithelium, together with numerous vibriones; and, what is remarkable, these latter were discoverable immediately on the fluid being examined, which in one case was within an hour after the dejection had passed from the person of a patient. We were, however, unable to discover anything like the brown, double, annular cell we had seen in the specimen put up by Mr. Swayne. Shortly afterwards, Mr. Brittan's figures appeared in the Medical Gazette, together with figures and descriptions by other contributors in that and other journals. On looking over these, we could not but think that the figures of Mr. Brittan were not so strongly illustrative of the cells seen in the specimen above referred to, while we felt fully assured that neither the descriptions nor the figures of some of the other contribntors were, in any way, identical with them; and what the more surprised us was, the total silence of these parties, while describing form, on so striking and distinctive a character as colour; and we were convinced that these latter, at any rate, were communicating to the journals the history of bodies of a totally different nature and bearing from those we had seen as "cholera fungi" prepared by Mr. Swayne.

On the 17th of October Dr. Symonds forwarded to us a specimen kindly furnished by Mr. Swayne himself. On examining this we immediately recognised some of the annular double-circled brown cells previously seen. We also observed they were mingled with various portions of vegetable tissue, respectively composed of bundles of woody fibre, open pentagonal cells, fibro-vascular and spiral tissue, together with numerous spines having a central cavity, a small but very perfect acarus, and a portion of a larger one. There were also some crystals of uric acid, together with what we then assumed to be the detritus of mucous membrane stained with blood. The presence of these various matters, in combination with the "cholera sporules," appeared to us to give so strong and direct an indication of the source of these bodies, especially as we had found annular cells identical in structure, although of rather less size, similarly associated in some cholera dejections, obligingly forwarded to us by Mr. Brooking, from Brixham, that we immediately (Oct. 18th) communicated the fact to Dr. Symonds as worthy the consideration of those investigating the subject in Bristol.

On the following morning our own surmises were, we may say, confirmed by the announcement by Mr. Busk that these bodies were an "uredo," and the product of a diseased grain. In the course of our observations we had largely examined some of the waters of this city, various specimens of cholera dejections from Brixham, together with the bread the patients had been partaking of, also bran and diseased ("grown out") corn, furnished by a baker of Exeter. The result of these investigations we will briefly enumerate; and, for the sake of clearness, will refer to the plates published in this journal, and in the report

of the Sub-committee of the College of Physicians.

Water.—Nothing in any way resembling the so-called sporules.

Cholera Dejections from Brixham.—First, uredo of two forms, one annular, *vide* Report, page 16, fig. 14; and MEDICAL GAZETTE, page 532, fig. 3. One ovoid, with small terminal projections at the ends, *vide* MED. GAZ., page 532, fig. 3. The central portions of both these contained granular matter; and the former, for the most part, had beaded projections on their outer rim. Secondly, portions of Acarus. Thirdly, portions of vegetable matters.

Bread from Brixham.—Annular cells, identical with those found in the evacuations, together with the vegetable tissues, spines, starch globules, &c.

Bran.—Identical vegetable matters, both cellular and spinous, with large defined granular cells, apparently not double-rimmed, nor identical with the cholera sporule. *Vide* Report, page 16, fig. 15.

Diseased Wheat.—Numerous double-rimmed annular cells ("sporules"), in one of which the central portion was discharging its contents.

On reviewing the above, it will be seen to be strongly corroborative of the Report of the Sub-committee of the College of Physicians.

First. That the so-called cholera "sporule" is only occasionally met with in cholera dejections, and therefore cannot be esteemed as a necessary pathological condition of this disease.

Secondly. That as the sporules occasionally found in the dejections are identical with those met with in the ingesta of patients affected with cholera, they are of extraneous origin.

Thirdly. That as the sporules are found in diseased wheat, it is fair to infer that such is their true source.

November 10, 1849.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 29th Nov., 1849:—Samuel Reynolds, Debach—George Edwin Gains—Edward Humphrey Paget, Leicester.

SOME REMARKS ON THE FEVER WHICH PREVAILED IN THE

COLERAINE UNION WORKHOUSE,

AND IN THE UNION, CO. LONDONDERRY, IRELAND, IN THE YEARS 1847 AND 1848.

BY T. H. BABINGTON, M.B.
Medical Officer of the Union Workhouse and Fever Hospital.

THAT the winter of 1846, and the succeeding spring and summer of the year 1847, were times of great suffering, poverty, wretchedness, misery, famine, and consequent disease, throughout all Ireland, are facts now so indelibly inscribed on the pages of the history of this country, that they here require no further notice. The province of Ulster, in which I have the privilege to dwell, did not suffer to the same extent as the South and West of Ireland, where famine stalked abroad, and the pestilence quickly followed. Nevertheless, its inhabitants did suffer to a very fearful extent; and in many parts of the province the destitution was very terrible. Amongst the most favoured spots I may mention the whole county of Londonderry and the Coleraine Union. In this locality, as soon as it was ascertained that the food of the great bulk of the labouring population was destroyed, those who had the means to relieve felt the responsibility thrown upon them, and immediately took steps towards mitigating the impending calamity. Relief committees were established, subscriptions solicited and liberally granted; grants from Government were given in aid of the subscriptions; soup kitchens were erected and opened, and by these means liberal supplies of food were given to the suffering poor; and by beginning early to dispense relief, I verily believe the effects of the famine were almost anticipated, and in a great measure counteracted. Notwithstanding, there was, even in the Coleraine Union, a large amount of destitution, and of disease consequent thereon.

Before entering on the immediate subject of these remarks it may not be out of place to review the state of the inmates of the workhouse, in reference to the diseases with which they were affected in the latter months of 1846

and the spring of 1847. In October and November 1846, influenza was very prevalent,—scarcely one inmate or officer escaped being attacked: the disease was fatal amongst the old and debilitated. In December, measles broke out amongst the school-children, and within three months there were 273 cases. In January, February, and March, 1847, diarrhœa and dysentery, with general anasarca, prevailed amongst the adult inmates, many of these cases obstinately resisting every remedial agent. Almost every person admitted into the workhouse laboured under either diarrhœa or dysentery. These diseases continued throughout the whole of the year 1847, the number of cases increasing or diminishing as the inmates increased or diminished.

During the year 1846 only thirteen cases of fever occurred in the Union Workhouse. There were no separate wards for the fever patients, and cases of fever were not admitted from the country into the Union Workhouse. Such as appeared in the neighbourhood were received into an hospital in the town of Coleraine, in connection with the dispensary under the superintendence of my friend Dr. Macaldin. I find, from the Report of that institution for the year ending November 1846, that forty cases were treated in the town hospital. It was not till the year 1847 that fever became epidemic in this town. In the early months of the year a few dropping cases occurred amongst the inmates of the workhouse; for the week ending April 3rd, there were only three fever patients, there being 842 persons in the workhouse (142 above the number it should contain). With a view to prevent the disease spreading, wooden sheds, for the accommodation of the fever patients, were erected in the rear of the workhouse infirmary. These were capable of holding forty patients, allowing 600 cubic feet of air for each. I am perfectly satisfied that if this means of separating and isolating the fever patients had not been provided, that the contagion must have spread very generally amongst the inmates, and the Coleraine Workhouse would have been a mass of disease and confusion, such as was witnessed in many other unions, the consequence of overcrowding and want of proper precaution.

Towards the latter end of May, there being no employment for the labouring classes throughout the union, the admissions rapidly increased, and on the 31st of May there were 910 inmates. At this date there were 22 cases of small-pox under treatment, and diarrhœa and dysentery prevailed to an alarming extent. As the house kept crowded so did the cases of fever increase, and this in despite of every precaution. From the 1st of June till the 31st of August the number of inmates varied from 907 to 769, and the cases of fever, from 0 on the 5th of June, had risen to 24 on the 31st of July. The harvest having commenced in the last week in August, many left the workhouse: in the early weeks of September the number of inmates decreased to 541, and on the 25th of September there was not one case of fever under treatment. From these facts we may conclude that the fever which spread so rapidly in the Irish workhouses was generated within the establishments, and was caused rather by the over-crowding of the buildings than by the importation of contagion.

In the month of October fever became very prevalent in Coleraine and its vicinity. The Fever Hospital in the town was overcrowded, and patients from the town and country were received into the workhouse fever sheds (pending the completion of the Union Fever Hospital, in course of erection) from the 25th of March till the 11th of October. When the first patient was admitted from the union, 79 cases had occurred among the inmates of the workhouse, and of these 34 had been attacked since the 1st of July. The Union Fever Hospital* was opened for the reception of patients on the 20th of October, and from that date till the 25th of March, 1848, 241 patients came under treatment; making a total of 320 for the year ending March 25th, 1848. From March 1848 till March 1849, 188 cases were admitted; in all, 508 cases during the two years.

It may be well, in describing the disease as it appeared here, to consider, first, the symptoms which were ob-

* The hospital is capable of containing sixty patients, allowing 524 cubic feet of air for each.

served, and any peculiarities which presented themselves; secondly, the complications; thirdly, the treatment adopted; fourthly, the duration of the disease; and lastly, the mortality.

1. Amongst the cases which came under observation there were four distinct forms of disease: first, simple continued fever (or mild synochus); secondly, continued fever, with typhoid symptoms (or synochus gravior); third, genuine typhus, with its characteristic measly eruption; and fourth, typhoid fever, with petechiæ, livid macula, purple blotches, or vibices, the worst type of disease observed here—in fact, the famine fever.

The first requires a very brief notice. The disease was ushered in with the usual symptoms — rigors, lassitude, general uneasiness, pains in the back and all over the body, followed by hot skin, headache, thirst, foul tongue, loaded urine, and vitiated alvine secretions. The disease ran its course in from ten to fourteen days, and was followed by a gradual and progressive convalescence. The only peculiarity observed in this form of the disease was the absence of any marked crisis. There were 100 cases of this form.

The *second form*, the synochus gravior.—The cases of this type were more numerous than the former. The first symptoms were precisely the same; but about the fifth or sixth day, the patients complained of greater general uneasiness, with a sensation of much debility, accompanied with much confusion of intellect, dull headache, and occasional intolerance of light. There was general suffusion of the countenance, injection of the conjunctiva, deafness, a short hacking cough, and much pain along the muscles of the chest. There was no fixed pain in the chest, and the stethoscope detected merely a dry state of the mucous membrane lining the larger bronchial tubes. The tongue, which was at first foul and thickly coated, about the seventh day became furred, dry, and brown. There was occasional vomiting, almost in every case tenderness over the epigastrium, and very frequently diarrhœa. The patients lay on their backs, their sensibility gradually declined, and they frequently lay for days totally unconscious to all around them, except when roused to take either drink or medicine. The change for the better was in these cases very gradual, and seldom commenced before the 16th or 18th day, often the 21st, and was almost invariably indicated by the patient falling into a profound sleep, which often lasted for 48 or 72 hours, from which they awoke with a clearer intellect, a moist tongue, and a cool skin, and this without any critical discharge. In this form of the disease there was not observed any eruption of the skin beyond a very few petechiæ in three or four cases. There was in every case a very tedious convalescence, and a great tendency to relapse. There were 130 cases of this form.

The third form of disease observed was the genuine typhus, characterized by its own peculiar exanthematous eruption; this perfectly distinct in its character, and incapable of being confonnded with petechiæ. In this form of the disease the early symptoms were not found to differ materially from those observed in the two preceding. The symptoms perhaps seemed rather more acute, and the headache and thirst more complained of, and these increasing till about the 5th day, when, or between it and the 8th, the characteristic measly eruption was observed (it is of a florid, reddish, or pink colour, gives the skin an elevated appearance, disappears on pressure, and quickly returns on the pressure being removed): the appearance of this eruption was generally accompanied with a marked catarrhal or bronchial affection. This eruption, so characteristic of the disease, is distinct from, and not to be confounded with, petechiæ: these seldom appear till the 12th or 14th day of the disease. I have seen them in the same patient, but at very different periods of the disease, and I am quite sure that petechiæ are not to be looked for as invariably occurring in the true exanthematous typhus. There were 160 cases of this form of the disease.

The fourth form: typhoid fever, with petechiæ, livid maculæ, purple blotches or vibices.—This may be called the famine fever, and, as observed in the cases here alluded to, closely corresponded with that described by Dr. Copland as typhoid fever, with putro-adynamia. In these cases we had the disease commencing like ordinary continued fever; but these early symptoms

were soon followed by marked debility and great prostration. There was headache, and suffusion of the eyes and countenance; no excessive heat of skin, but the whole surface was of a dusky or dark colour: as the disease advanced, and the debility increased, it became bluish, and was studded with petechiæ, or covered with livid maculæ and dark purple (nearly black) blotches or vibices. The veins over the surface were dark and purple; the pulse was quick, weak, soft, and very compressible, and the action of the heart weak, and its sounds feeble and indistinct. There was great confusion of intellect; low delirium; the patients lay on their backs, and their cold feet thrust out under the bed-clothes: they were often totally insensible, and passed their fæces and urine without giving any notice. The tongue, at first foul, and loaded with dirty mucus, soon became dark and dry, shrivelled up in the back of the mouth, and was with difficulty protruded: often it could not be pushed beyond the teeth. The mouth was full of a dark, dirty, thick viscid mucus which covered and closely adhered to the gums, teeth, and edges of the lips; there was considerable distension of the colon, and gurgling over the cæcum, frequently accompanied with diarrhœa. The evacuations were dark, thin, slimy, very offensive, and occasionally mixed with blood. Hæmorrhage from the mucous surfaces was not infrequent. In one case there was profuse hæmorrhage from the uterus. A troublesome asthenic form of bronchitis was present in about one-third of the cases.

This type of the disease was much more tedious and protracted than the others: there seldom was any symptom of amendment before the 21st day, frequently not even then, and the disease was protracted till the 28th or 30th day. There was no marked crisis, and it was only by comparing the symptoms of one day with those of the three or four preceding, that any symptom of amendment could be ascertained. In this form we had few cases of relapse, but several who were attacked subsequently died from phthisis, dysentery, or obstinate chronic diarrhœa. It is to be remarked that no case presenting the symptoms of this type of the disease arose within the workhouse: these cases were admitted from the union, and we invariably found that the persons attacked had suffered much destitution. They were either travelling mendicants, or persons who had travelled the country over in search of work or food, both; or deriving a scanty and precarious sustenance from the alms of those who could ill afford it; sleeping in wretched dwellings or out houses; covered by night with the clothes they wore by day, and these often saturated with wet. Such were the characters of the persons attacked with this form of the disease. It appeared also to be highly contagious. We had husbands and wives, mothers and children, in fact whole families, admitted all at once, drawn to the hospital in the same cart, all presenting the same symptoms: 118 cases of this form came under treatment.

II. *The complications* which were met with in the cases next claim our attention: these have to a considerable extent been described in the foregoing observations, so that here only the more serious cases require notice.

In 24 cases the head was attacked with violent inflammatory symptoms.

In 36 cases there was intense acute bronchitis.

In 130 cases there was severe exhausting diarrhœa.

In one case severe jaundice.

In one enlargement of the spleen.

In one case profuse hæmorrhage from the uterus.

In one case acute dysentery, which proved fatal.

In one case peritonitis, which also proved fatal.

In almost every case, except those of simple continued fever, there was at some period or other marked debility and prostration; so much so that great general debility might be considered as the characteristic of the epidemic.

There were bed sores in only two cases.

III. *The treatment* adopted was chiefly expectant. In the simple form, light diluent drinks, as thin gruel, whey, barley water, saline aperients, and the occasional exhibition of Hydrarg. cum Creta. as an alterative; but in this form of the disease very little medicine was given or required.

I may here remark, that in every case the patient was cleansed, and the hair cut quite close to the scalp immediately on admission, and in the great

majority of cases the head was shaved; a practice which we found to be attended with great benefit.

In the second form of the disease the cough and bronchial affection was much relieved by the exhibition of Hydrarg. cum Creta, and small doses of Pulvis Ipecacuanha: we were seldom obliged to have recourse to any more active measures. In the cases where we had tenderness of the epigastrium and vomiting, much benefit was derived from the application of a mustard poultice over the stomach. Where diarrhœa was present it was generally checked by the administration of chalk mixture, with Tinct. of Kino: in a few severe cases we had to give acetate of lead and opium.

In the third form of the disease, when the bronchitis was more severe, calomel and Hippo. were given in small and frequent doses, with decided benefit; and where we had any fixed pain in the chest, the application of a blister for five or six hours was found effectual in removing it.

In the fourth form of the disease wine was our principal medicine, and its use in many cases in very large quantities was attended with the happiest results; in some cases whisky and brandy were also administered; but it was on wine we placed our chief reliance. The use of wine was not limited to this form of the disease alone; we were obliged frequently to order it where debility set in in the second and third forms: in its administration we were chiefly guided by the state of the heart's action, as indicated by the stethoscope, and we had ample opportunity of testing and verifying the views of Dr. Stokes on this subject, as published in the Dublin Medical Journal; and to the important correctness of the statements there made, I beg to add my humble testimony. Throughout the whole epidemic, depletion, either local or general, was seldom had recourse to. As the type of the disease was debility, we carefully husbanded all the vital forces; only in twelve cases was it found absolutely necessary to apply leeches to the temples; the shaving of the head, and continued application of cold lotion, were sufficient to keep in check the cerebral affections.

IV. *The duration of the disease* was of course various, and differed much in the several varieties of the cases. I find that the average sojourn of each patient in the hospital was 43½ days.

V. Lastly, in reference to the mortality.

The total number of deaths was 38, which at first sight appears a large per centage,—about 13 per cent.

It is, however, to be remarked, that many of the patients were admitted almost moribund, and died soon after their reception into the hospital. I find that one died six hours after admission; three on the second day; four on the third day; and four on the fourth day. I find also that nine of the patients who died were above 60 years of age; four of them above 70. In a few of the fatal cases the disease was unusually protracted. One died on the 55th day; three on the 48th day.

As was to be expected, the great mortality occurred amongst those who had suffered the greatest hardship previous to their admission, or who had been of intemperate habits, whose broken-down constitutions could ill bear up against the disease.

Coleraine, 30th Oct. 1849.

DEATH FROM INTUSSUSCEPTION OF THE INTESTINES.

Mr. J. Workman lately presented to the Reading Pathological Society, a portion of the intestines of a child, and gave the following history of the case:—

William Atkins, aged five months, was seized with severe pain in the abdomen on April 26th. He was not seen till the 29th, when he was found convulsed; the surface of the body covered with a cold clammy sweat; the pulse very weak and scarcely perceptible; the knees flexed on the abdomen; and passing mucous and bloody stools. The treatment consisted of the administration of alteratives, with mild aperients, warm baths, and, latterly, carminatives and sedatives. He gradually became worse, and died on the 8th of May.

Post-mortem 24 *hours after death.*—General appearance of intestines healthy. In the right hypogastric region a tumor was observed, which, on examination, was found to be formed by the invagination of the cæcum, appendix vermiformis, and five inches of the ileum, in the ascending colon. The only history he could obtain was that the child had been grasped violently by the abdomen while playing with an elder brother. The child lived ten days after the receipt of the injury, whereas they usually die before the sixth day.—*Prov. Journ.*, Nov. 14.

ON THE

ART OF MAKING TRANSPARENT PREPARATIONS OF THE SPINAL CORD,

FOR SHOWING THE ROOTS OF THE NERVES BY THE MICROSCOPE.

By Joseph Swan.

Part II.

In my preceding communication one plan for showing the roots of the nerves consisted in dividing the spinal cord into quarters, and then removing a portion from the side of each quarter; but in addition to this another may be adopted by which at first no part of the quarter will be removed, but the whole will be spread out for showing the continuations of the most superficial roots. This change is more especially required in the anterior quarter, as some of the roots descend on the surface, forming the side or boundary of the deep anterior fissure. It is presumed that in separating the cord into quarters, the anterior spinal artery has been carefully removed, and the surfaces in the deep fissure left uninjured. A longitudinal incision is then to be made at the part which had been separated from the corresponding quarter of the same side, and in this manner the surface which formed one boundary of the deep fissure will approach in some degree a level with the outer surface of the cord. The next day it is to raised from the slide with a thin scalpel, and turned over so that a great portion of the soft matter may be scraped off; it is then to be turned back again on the slide. The following day the whole of the remaining soft matter is to be removed, and it is then to be turned back again until it is quite dry and transparent. If the soft matter be removed by two operations at the interval of a few hours, the preparation will probably be not only more even in appearance, but the structures more uniformly preserved. When it is quite dry it may be raised and placed on a slide in Canada balsam, and otherwise treated according to the directions in the preceding paper, or according to those communicated further on. Some preparations may be made of the cord as it has been removed from the animal without washing it: if the vessels are full of blood, or, a little extravasated, gives a slight tint, the roots of the nerves are often exhibited to great advantage. An attempt has been made to imitate this appearance by applying to the under surface of the dried fine lake mixed with spirits of turpentine, and when dry placing it in Canada balsam on the slide. The object was to have the nerves on the surface, forming a decided contrast with the parts underneath, but at present it has not been sufficiently advantageous for recommendation, but it may prove more successful by varied means in other hands.

The preceding remarks apply to the fresh spinal cord, which, from the contained blood, is more apt to putrify. It is presumed that the pieces have been placed within the influence of a good fire for a considerable part of the preceding day, so that the surface has become dry to nearly the required thickness. If the pieces have not been near a fire, the surface will be too thin for so quick a disposal of them; but by delay they will probably be spoiled by putrefaction, unless the weather be very cold. When the spinal cord has been previously put into vinegar and alcohol, the more leisurely proceeding recommended in the former paper will suffice.

There is not so extended a surface for the roots of the posterior nerves, and the distance they have to proceed to the grey matter is much shorter; but a preparation may be also formed of the posterior quarter by making a longitudinal incision through the grey matter, by which it will be allowed to be spread out for showing all the more superficial nerves. Sometimes the nerves are not distinct on the surface, probably from too much transparency, but are only recognised faintly as the light passes over them in moving the preparation from side to side. To obviate this condition, after the piece has been well dried and laid down on a slide in Canada balsam, it may be smeared with a varnish made of equal parts of Canada balsam and alcohol, and the superfluous quantity removed by alcohol. The preparation is much more uniform if the superfluous matter has been removed whilst it is soft; but if it has been allowed to become dry to too great a depth, and it requires to be made thinner before it is laid on the slide in Canada balsam, it may be

moistened with the preceding varnish, or alcohol instead of with spirits of turpentine, and afterwards have its surface smeared with the same varnish. Sometimes it is necessary to use at last a little spirits of turpentine for removing any shining spots. These preparations are more opaque, but if thin enough give a very good demonstration of the nervous roots. The preparations made with spirits of turpentine are the most transparent, but this fluid is apt to get into the arteries and produce very numerous dark spots, which disfigure and sometimes altogether obscure the finer parts: those made with alcohol do not often show these spots. There are advantages in both plans, and by each of them many beautiful specimens have been acquired.

Although the preceding plans have produced many useful preparations, yet they have too often failed not to make some better ones very desirable. When the piece has become quite dry and transparent, so that it would be presumed that it would make a perfect specimen, soon after it has been placed in Canada balsam, it has become clouded in larger or smaller portions, and it is therefore not improbable that some reaction takes place between the medullary matter and the Canada balsam. The following plan under this supposition has been tried with decided advantage. On separating the piece from the slide after it has become perfectly dry and transparent, it is to be turned over and twice well smeared with copal varnish; when dry it may be smeared again, and then placed in the slide to which it is to be pressed for removing air bubbles: or after the varnished surface has become dry it may be placed on the slide in Canada balsam; the upper surface may be smeared with mastich varnish, or that made with Canada balsam and alcohol, and the superfluous shining removed afterwards, either by spirits of turpentine or alcohol: copal varnish has been smeared on the upper as well as the under surface, but when dry it is removed with more difficulty. It has been stated that if varnish is applied to the upper surface of the preparation, the parts underneath are not discernible until the shining quality has been removed. This is true so long as the under surface is covered with shining matter, for if this be dull, and the upper surface shining, the parts beneath are perfectly seen.

In the preparation of the anterior quarter of the cord just described, on the upper surface, as far as the beginning of the deep fissure, the fibrils of the nerves are seen dividing principally into the coarser wavy threads, and in that part which formed the surface of the deep fissure nervous roots are seen continued to the grey matter. On the posterior surface, besides vessels, if the piece is thin enough, the coarser wavy threads will be also seen, but having attached to them numerous points or ends of the finer wavy threads, which have been separated from their continuations to the grey matter. The roots on the surface of the anterior fissure will be also seen.

The cellular appearance of the pia mater was mentioned in the preceding paper; it may be considered as bearing some resemblance to the roots of the nerves, but it is so slight as hardly to be worthy of notice. The processes by which the denticulated ligament is connected with the pia mater do, indeed, show some transverse lines; but these, as well as any other marks on the pia mater, are much more broken and uneven than the nerves. As the roots of the nerves are in such close contact with the pia mater, and it is difficult to separate them entirely, some mistake may arise on this account in making examinations of this membrane taken from the spinal cord. Preparations have been made after the pia mater has been removed; and the principal resemblances of the coarser wavy threads remain nearly the same on the surface of the cord as when this membrane has been untouched.

In a large animal the number of roots contained in each quarter of the cord is very great; and as they appear to form continuous layers, from one end of the cord to the other, it is probable that the beginning of the nerves collected into a fasciculus on the outside of the pia mater is the clear commencement of the nerve as an instrument of any decided, measurable, or definite sensation or motion.

In an injected spinal cord the number of arteries seems to be very great, even when the very numerous capillaries have not been penetrated by the colouring matter. The vascularity, when compared with the quan-

tity of grey matter, appears much more abundant than in the brain; but when it is considered that each root is accompanied by a capillary, the seeming superabundance of ve-sels is not greater than is necessary for furnishing the immense number of capillaries required for all the nervous roots. The blood-vessels which accompany the fibrils of every nerve, by ramifying amongst the roots in the spinal cord, as well as amongst the medullary and grey matter, bring the state of the circulation of the roots, and the parts giving origin to them, into the same excited condition as their trunks and ramifications in the several organs of the body, whether the impulse they receive originate from without, for sensation, or from within, through the will, for the action of the muscles. For example, when the arms are in action, or any portions of them, the vessels of the corresponding region of the spinal cord supplying the nerves are excited, in concert with those of the nerves of the muscles or skin, or both; and in the same way those of the corresponding region in the lower part of the spinal cord are excited, with those of their nerves, when the legs only are in activity, as in walking.

As the spinal cord contains the nerves representing so great a portion of the more sensible and active parts of the body, and as these are so amply supplied with blood-vessels, it is probably a much greater source of perceptive and motive irritability than the brain, even not excepting the oblong medulla.

6, Tavistock-square.
Nov. 9, 1849.

PREGNANCY IN A FEMALE WHO HAD NOT MENSTRUATED.

The meeting of the *Société Médicale d'Emulation de Paris* (June 2nd) was opened by a communication from M. de Gillette, who related the details of a case of amenorrhœa, recently under his care at the Hôtel-Dieu. The patient was thirty-five years of age, of a strong constitution, and the mother of three children. After each confinement the lochia had existed normally. The patient had never in her life menstruated, nor experienced any vicarious discharge.—*L'Union Médicale.*

*** This fact is worthy of notice among others that are irreconcilable with the ovular theory of menstruation. χ

ON THE USE OF ELECTRO-GALVANISM IN A PECULIAR AFFECTION OF THE MUCOUS MEMBRANE OF THE BOWELS.

By William Cumming, M.D.
F.R.C.P.E., and Secretary of the Edinburgh Obstetrical Society.

There is a disease of the mucous membrane of the digestive canal so common that it can scarcely have failed to obtrude itself on the notice of every practitioner, and yet which has the rare fate of not having a place in any systematic treatise,—which, indeed, so far as I am aware, is referred to only twice in medical literature, and on one of these occasions only incidentally. It is an affection which gives rise to great physical irritation and discomfort; and the mental phenomena consequent on it amount, in some cases, to absolute insanity, and even in its slighter forms to a perversion of feeling and irritability that closely resembles that state. It needs, therefore, no apology on my part to direct the attention of the profession more markedly to it, though I am well aware that there are many who both know it better and can describe it more graphically.

We are often consulted by patients who, at the first glance, convey the impression that they are imperfectly nourished: they have an emaciated appearance. In detailing their symptoms, they lay great stress on a feeling of emptiness, or rather faintness, at the epigastrium: they complain of exhaustion there. They generally next direct our attention to a more or less fixed pain, either in the left hypochondriac or iliac region, sometimes both, more frequently the latter,—a pain from which they are rarely exempt, and which is sometimes very severe and acute, though oftener gnawing and irritating. If they have ever been induced to apply a mustard blister to the seat of pain, they dwell on the relief, great though temporary, they have experienced from it. The stomach, in most of the cases I have seen, has not been irritable: it commonly retains and digests the food; but pain is frequently felt in the

course of the colon, in a period varying from an hour to two hours thereafter. The bowels are at one time constipated, at another lax, in the same person. Some are uniformly costive, others more frequently loose; but in all (*and this is the characteristic mark of the disease*) a peculiar membranous, fibrinous matter is discharged. In some cases it is stringy, in others tape-like in its form; in others, again, in small masses, resembling fat; while in the milder cases it is more diffluent and gelatinous. That the disease has, from want of proper examination of the intestinal evacuations, frequently eluded observation, I know too well from my own experience, and that it has consequently been maltreated does not admit of doubt. The last thing the patient will mention (if, indeed, he mention it at all) is the characteristic discharge. When the doctor directs his or her attention to it, they will hesitatingly admit that they may *possibly* have remarked it—nay, even when they are informed that scarcely a stool passes without more or less of it, they will often fail to discover it; and hence no practitioner should rest satisfied when he has reason, from other indications, to suspect the affection, till he has himself examined the fæces most carefully, particularly when separating the fluid from the solid matter. In the former he will rarely fail to discover flakes or streaks, or even small masses: these, if discovered, will lead, at future opportunities, to the detection of larger and more unmistakeable portions of the abnormal secretion. To take the report of the appearances from the patient is, in too many instances, the surest way to deceive both him and himself. In addition to this, there is not unfrequently a considerable discharge of blood from the bowels, and that, too, where no hæmorrhoids can be detected. Almost uniformly there is great pain during evacuation, and always a feeling of exhaustion for some time after. In most of the patients there is a peculiar expression of countenance, so striking that one who has seen many such cases can, with tolerable certainty, tell, without more minute examination, what the nature of the complaint is. It is an expression of anxiety; quite different, however, from that which usually marks organic disease. You do not conclude, as is too often the case with the latter, that your patient is labouring under an incurable malady.

Scarcely less characteristic of the disease than any of the preceding symptoms is the state of the mind. In all there is more or less nervousness, greatly increased towards night, inducing sleeplessness; and when, towards morning, sleep does come on, nightmare is frequent—dreams (generally of an unpleasant nature) invariable. One lady was troubled with spectral illusions. Professor Simpson has informed me that he has remarked in most of the cases that have come under his observation a deficiency of memory in regard to words; the patient knows what he wishes to express, but cannot find the expression at the moment. In my own experience I have not observed this so frequently, and certainly in very many cases it is wanting.

When the affection has been of long duration (and too frequently this is the case before we are consulted) the mental irritability is very great; and what is more painful still, the patient's feelings and views are perverted and distorted. It is unnecessary to add that they are miserable in themselves: and, where the nature of the affection is unknown to and due allowance not made by the companions and friends, the cause of misery to others. They are quite sensible that they are not what they formerly were—that they are changed for the worse: they feel, moreover, that they have little control over their mental state, and are apt to fall into a condition of great depression and despondency. If I were to express their internal feeling in few words, I would say that they have a mixture of irritability and despondency, relieved from time to time by happier feelings, but those of compatively short duration.

In endeavouring to trace the history of the disease in each individual case, we are generally told by the patients that they cannot indicate the precise time when their symptoms arose. Not unfrequently they ascribe their origin to drastic medicine; and I believe that the pernicious habit (now, happily, not so common as formerly) of taking aperient medicine in one form or another, is by far the most frequent cause; but it is certainly not the only one. It is vastly more common in the

female than the male sex, though by no means uncommon in the latter; and in the former it is very often accompanied by dysmenorrhœa, and occasionally by the membranous form of that affection.

If this be a correct description of the disease (and assuredly those who have had much acquaintance with it will not accuse me of colouring too highly), the treatment of it cannot be of trifling consequence, nor the cure otherwise than more than ordinarily desirable; and that it is generally, if not always curable, I am now perfectly satisfied. As I wish to deal only with facts, I shall not dogmatise on the pathological nature of the affection, nor even hazard a conjecture. Though the source of much misery, it is not a fatal disease; and, therefore, an opportunity of making a post-mortem examination must be rare. In my own experience I have had no such opportunity.

What, then, is the treatment?

1. The primary, and, I believe, indispensable point is total, or almost total, abstinence from aperient medicine. With this view, I was till lately in the habit of relieving the bowels every third or fourth day by enemata of simple warm water, or with the addition of a tablespoonful of oil, and perhaps every ten or twelve days a dose of castor oil by the mouth. These means, simple though they be, do mischief; and, therefore, it was desirable to discover a mode of effecting the object without the disadvantage of its being at the same time an irritant.

2. External counter-irritation. This, in the form of a mustard blister every night or second night, gave considerable but temporary relief, and was always most grateful to the patient; but in very many instances it failed utterly, and, where it did benefit, the relief was transient.

Circumstances, which I need not at present detail, led me to surmise that electro-galvanism would accomplish both these indications of treatment without the disadvantages with which the other means were chargeable; and the results of its use in a considerable number of cases of this disease, warrant me, I think, in affirming that it is competent of itself to the cure of almost every case, and that, aided by an internal medicine which I shall refer to presently, it will cure both certainly and speedily. In the first place, it acts as an aperient,—seemingly by its action on the muscular coat, as well as the mucous membrane of the bowels. *In every case* in which I have used it this has been the effect; and if it had no other consequence than this, the advantage would be prodigious; for as in a multitude of instances the disease has been traced to the use or abuse of laxative medicines as a cause, and as during the treatment even the mildest aperients irritate the membrane, and so far aggravate (temporarily) the disease, the evacuation of the bowels, by any means that do not irritate, is obviously of great consequence. But the electro-galvanism does more than this; for 2ndly, it induces such a state of the bowel as prevents the formation of the peculiar secretion; that is, it restores it to a more healthy condition. I purposely avoid using expressions which might involve a theory as to its mode of action, and do not profess to tell how this result takes place: the fact itself is indubitable. 3rdly, it supersedes counter-irritation. The pain in the side, for the removal of which the counter-irritant was employed, is relieved by an application of the galvanism for at least twenty-four hours; in many cases for a much longer period; but as the agent is applied once a day, where no contra-indicating cause exists, till the disease is removed, the pain may be said to be abolished.

Galvanism, therefore, might of itself effect a cure; but I have generally combined it with the internal exhibition of tar, and have thus effected cures in a much shorter time than by either of these means singly. For some time I was in the habit of giving internally the nitrate of silver, arsenic, or cod-liver oil, as circumstances directed; but latterly I have confined myself to the administration of tar, suggested first, I believe, by Dr. Simpson, and have found it of all internal means by far the most effectual. It relieves the feeling of exhaustion at the epigastrium, imparts an agreeable warmth, and promotes appetite and digestion; but by itself it is long in effecting a cure, even in slight cases in all the trials I have made of it. The plan I have hitherto adopted has been, to give the tar, in the form of pill or capsule, thrice a day; the electro-galvan-

ism (Kemp's, of Edinburgh, machine, is the one I have used), is applied for a quarter of an hour daily, the intensity being increased from time to time. Steady perseverance is requisite. With this the case must be obdurate indeed that will resist a cure.

One remarkable fact connected with the treatment of galvanism is, that it *determines* the portions of the bowels where the greatest amount of irritation exists—a knowledge which manual pressure fails to convey: for it is a singular truth, that when the instrument is in action, extreme tenderness is complained of in more than one well-defined spot or tract, of which the patients were not previously aware, and quite distinct from the regions to which the attention of the doctor is directed as the seat of the pain. And it is extremely interesting to observe how this tenderness after a time, and the continued use of galvanism, diminishes till a mere point is fixed on as its seat, and how this also is removed; after which the disease may be said to be extinguished, though I have seen reason to persevere at more distant intervals in the application of the agent, for the sake of confirming the recovery, strengthening the nervous system, and conducing to the self-regulation of the bowels.

Another most important fact is, that the galvanism is as useful in those cases in which there is a tendency to diarrhœa as in those characterized by the opposite state. How the disease has two such different symptoms I do not profess to explain; but there can be no doubt that they are dependent on the same cause and amenable to the same remedy.

In watching the progress of the cure, there is nothing more agreeable than to see how the patient takes on flesh, and the nervous pains and feelings disappear. One patient came to me with all the appearance of chlorotic anæmia. She had had iron in various forms previously, without effect; I should rather say with injurious effect. And I may here remark, that there is a class of cases of this disease which simulate in almost every respect those in which the combination of iron and aloes is usually so beneficial, but which are inevitably aggravated by it. Under the use of the galvanism all the indications of anæmia vanished; her bowels became normal in action; she took on flesh; the pain in the iliac region, which was so severe as (in her own words) "to bend her double," was removed; the œdematous state of the lower extremities disappeared, and she is now in good health and spirits. This is a type of what I am satisfied is a very large class of cases. I have frequently been puzzled by the failure of the usual treatment in such cases; but now an inquiry into the nature of the alvine discharges may obviate all difficulty, and if I am correct in my views, lead to a speedy cure of the affection.

Note.—It is perhaps a bold assertion that few cases of constipation will resist the action of electro-galvanism; but the number of cases of various kinds in which I have used it with success, leads me to infer that in all, except those arising from organic or mechanical causes, this agent will not only act as an aperient, but give such tone to the muscular and mucous tunics, as in time will lead to the natural discharge of their functions. The use of galvanism has been too extensively limited to paralysed organs. The same influence that will restore vigour either entirely or partially to a muscle or set of muscles that have lost their power, will obviously, under due regulation, impart it to those in which it is diminished; and probably few will question that the muscular fibres of the intestinal canal have a function to perform not the least important of the various portions of that tube; that in torpor of the bowels they are practically partially paralysed; and that therefore we might *à priori* expect that galvanism, by supplying an appropriate stimulus first directly, and then secondarily by its probable action on the sympathetic system, would have a beneficial operation. If this be true (and if not theoretically, I am satisfied that it is practically so), what innumerable wretched symptoms and feelings may not be removed, to which so many of both sexes are victims, and which all medical practitioners have daily to contend against as the accompaniments and consequences of *habitual constipation!* The preceding observations will tend to show that in one of the many forms of intestinal disease galvanism has valuable effects. I am prepared to prove by facts (and may at

a future opportunity do so) that its good results are not limited to this, but extend to many usually intractable forms of disease, most of which are associated with *constipation or diarrhœa.*

140, George Street,
Edinburgh, Nov. 12, 1849.

ON THE TOXICOLOGICAL PROPERTIES OF SULPHATE OF LEAD.

Dr. Pleischl was led to investigate the degree of solubility of sulphate of lead, from the occurrence of several instances of poisoning by the salts of lead, dissolved out of the glazing of common earthenware culinary vessels by the acids of the alimentary substances which had been prepared in them. The rarity of this form of poisoning has been attributed to the decomposition of these soluble salts of lead by the sulphuric and phosphoric acids in alimentary substances within the stomach, and their consequent conversion into the insoluble sulphate. Dr. Pleischl quotes the authority of Liebig that sulphate of lead is an insoluble, or nearly insoluble, heavy white powder. He cites, on the other hand, the statement of Bischoff, that the sulphate of lead is sparingly soluble in nitric acid, in nitrate and acetate of ammonia, and perfectly soluble in strong hydrochloric acid, even in the cold; from which, however, it is again thrown down on dilution with distilled water. Berzelius also observed that the sulphate is soluble in concentrated muriatic acid, and that the solution deposited on cooling crystals of chloride of lead.

According to Bischoff, nitric acid will dissolve a small proportion of sulphate of lead; viz. one part in a hundred and seventy-two, at the temperature of 12° R. =57° F., and with a specific gravity of 1·144. A solution of nitrate of ammonia, sp. gr. 1·29, will dissolve one part in nine hundred and sixty-nine; and a solution of acetate of ammonia, of sp. gr. 1·036, will dissolve one part in forty-seven. The solvent power of the last named salt may be made available to separate sulphate of lead from other combinations. Sulphate of lead is soluble in cold solution of sal ammoniac.

These facts controvert the before-mentioned explanation. But it remained to ascertain, by direct experiment, whether sulphate of lead was capable of solution by the acids ordinarily met with in culinary processes at common temperatures. With this view sulphate of lead was subjected to the action of the following acids, the mixture being frequently stirred during twenty-four hours, then filtered through paper previously washed in dilute nitric acid :—

1. Acetic acid. Hydrosulphuric acid threw down at first a brownish, then a black precipitate of sulphuret of lead. From the clear liquid which remained, the muriate of baryta threw down white sulphate of baryta, showing that the acetic acid had contained sulphate of lead in solution.

2. Acetate of soda. Hydrosulphuric acid threw down a brownish-black precipitate; hydrosulphate of ammonia a still blacker precipitate. After a few days carbonate of ammonia threw down an abundant white precipitate, as did also barytic salts.

It has been already pointed out that muriate of ammonia forms a soluble combination with sulphate of lead. A similar property in acetate of soda is now for the first time made known. In this chemical combination there is either a mutual decomposition, a simple interchange of elements, or a soluble ternary compound is formed.

3. Diluted hydrochloric acid (one part to two of water). Hydrosulphate of ammonia produced the black precipitate. The excess of hydrosulphuric acid being driven off, and the muriatic acid neutralized by carbonate of ammonia, on again adding hydrosulphate of ammonia, a still more abundant black precipitate was thrown down.

4. With a saturated solution of tartaric acid the same results were exhibited.

5. With a strong solution of citric acid the like effects followed the use of the same tests.

In these two last acids the effects were less marked than with acetic acid.—*Oesterreichische medicinische Jahrbücher.*

*** These remarks throw no light upon the question whether sulphate of lead has or has not a poisonous action. May not the general immunity from pernicious effects, arising out of the formation of salts from the lead contained in the glazing of pottery, be rather attributable to the small quantity of the salts thus formed, whether taken into the stomach in that state, or as resulting from the solution of sulphates?

In Taylor's Medical Jurisprudence, 1849, p. 106, we find many facts which prove that acetate of lead and other soluble salts of the same metal "may be taken in comparatively large doses without producing serious effects. Thirty or forty grains have been given daily, in divided doses, without injury." We recently met with a case in which at least two drachms were taken with impunity. χ

MEDICAL GAZETTE.

FRIDAY, DECEMBER 7, 1849.

Our readers will no doubt remember the trial of the case of Nottidge *v.* Ripley, which took place a few months since in the Court of Exchequer. The facts connected with this case have excited great interest among the members of the medical and legal professions. We have now before us four pamphlets in reference to this trial, comprising "Remonstrances" and "Vindications" on the facts of this case, the opinion of the learned Chief Baron who tried it, and the rules which should govern the confinement of persons alleged to be labouring under insanity. We have purposely delayed the publication of our remarks, as it was pretty confidently announced that there would certainly be a motion for a new trial. The parties against whom the verdict was given appear to think, however, that they have no reasonable ground for disturbing it, and we shall therefore no longer delay those remarks which the circumstances of this extraordinary case appear to justify. The Remonstrances and Vindications will be noticed hereafter.

The facts of the case, as proved at the trial in the Court of Exchequer, were that the plaintiff, a lady of middle age, had, in common with three of her sisters, joined a religious sect called the Lampeter Brethren, and had adopted some extraordinary views on the subject of religion. She left the house of her mother and went to reside near her sisters at an establishment belonging to the sect called the Agapemone, or the "Abode of Love," in Devonshire. The three sisters, each possessed of £6000, had contracted marriages with three brethren of the establishment, without having any settlement of the property made upon themselves. The plaintiff had a similar fortune, and while residing with a Mrs. Rennie, the wife of the Principal of the Establishment, was forcibly carried off by the defendants against her will, and was conveyed to London. She was subsequently seen by two medical gentlemen, nominated, as it appears, by those who had been concerned in her abduction: these gentlemen signed a certificate to the effect that she was of unsound mind, and upon this certificate she was conveyed to the asylum of a Dr. Stilwell, of Hillingdon, where she remained for a period of fifteen months. She then, by mere accident, succeeded in making her escape. Up to this time her married sisters in Devonshire had been kept in entire ignorance of her confinement as a lunatic, as well as of the place where she was confined. On her escape she communicated with them, and a brother-in-law, a Mr. Cobb, met her by appointment in London to accompany her into Devonshire. While on the journey she was stopped at the Faringdon road station by one of Dr. Stilwell's keepers, by whom she was taken back to the asylum. An application was then made to the Commissioners of Lunacy by Mr. Price, another brother-in-law, that they would inquire into the case. This was on the 9th of April of the present year, and the plaintiff was liberated on the 1st of May, having been confined as a lunatic for a period of about *seventeen months!* On her liberation she brought an action for damages against the parties who had forcibly taken her from her residence in Devonshire, for the injury done by such abduction and by her confinement in a lunatic asylum. A verdict was returned in her favour, with fifty pounds damages, the jury alleging that they imputed no merce-

nary or unworthy motives to the defendants.

This verdict, together with the charge of the Lord Chief Baron, has given rise to considerable discussion, both in and out of Parliament, respecting the rules which should justify the confinement of a person, alleged to be insane, in a lunatic asylum. This is strictly a medical question, but the manner in which it is solved may affect materially on the one hand the responsibility of medical practitioners, and on the other the liberty of the subject. In the present case it has been made to a certain extent an Asylum-keeper's question; but we do not think that these gentlemen can be regarded as fair or unbiassed referees in a matter in which their interests are so directly concerned. Many keepers of lunatic asylums are so disposed by habit and prejudice to recommend isolation and confinement, that it appears to us in a disputed case their opinions should be received with very great caution. There can be no doubt, if they had their way, that a great number of crotchetty persons who now go free, and manage, in spite of some absurd delusions, to transact business, and conduct themselves with decency and propriety in the world, would be confined to the four walls of their establishments. We freely admit that these asylums are in general much better conducted than formerly, and that many of them are really comfortable abodes: nevertheless, liberty is considered to be the great birthright of Englishmen, and this principle of our jurisprudence must not be lightly violated, even although with the humane intention of conferring a supposed benefit upon the individual. We propose, therefore, to consider the facts of this remarkable case, as they were proved in Court, and without reference to the views entertained by gentlemen who undertake the custody of lunatics.

Admitting the absurdity of the plaintiff's religious notions, there was great irregularity in the whole of the proceedings taken against her. The defendants, if they had suspected that this lady was insane, had it in their power before committing this outrage of violently forcing her from an abode chosen by herself, to call for a commission of lunacy, as there was no want of funds in the family. It was alleged by their counsel that this was not done because it would have destroyed that privacy in which it was considered desirable to keep the affair. It is obvious, however, that a plea of this kind may be made to cover the greatest tyranny and injustice. If a person be not really a lunatic, it is he alone who suffers by the matter being kept secret; and the pretence here set up may thus lead to an illegal incarceration for life. Not only was there no commission in this case, but as it appears from the evidence, this unmarried lady, who had attained the mature age of thirty, was forcibly carried off before the abductors had even had the decency to have her state of mind examined by competent medical men! They had, therefore, no warrant or excuse for this gross violation of personal liberty, and such conduct might well justify the indignant remark of the learned Chief Baron:—"He very much doubted whether, if in this case the plaintiff had been a *man*, or living under the protection of a husband, the defendants would have dared to have taken the step they had. When consulted by the mother, they ought to have refused to have taken that step until a *medical examination*, or an *inquiry by commission* had been made." Unless some such rule as that suggested by his lordship be adopted, the liberty of no English man or woman who happens to be possessed of property is safe. Although the married sisters had the

same religious delusions as the plaintiff, an attempt was not made to carry them off, for no other reason that we can see, except that suggested by the learned judge—namely, that their marriages protected them!

The illegal conduct of the parties concerned in this abduction was further marked by the fact that the three sisters of the plaintiff were kept in ignorance of her imprisonment. If the defendants believed the plaintiff to be really insane, there could be no reasonable objection to the fact of her having been confined as a lunatic under medical certificates being communicated to those near relations from whose society she had been thus abruptly torn. The studious concealment of the place of her imprisonment, and the denial to the plaintiff of the privilege of corresponding with her sisters, suggests a dark suspicion that they knew their proceedings would not bear public investigation.

The conduct of the Commissioners of Lunacy is also somewhat extraordinary. We are told that soon after the imprisonment two of the Commissioners of Lunacy visited the asylum, and communicated with the plaintiff, but did not on that occasion order her release. It was, of course, no part of the duty of her medical keeper to inform the Commissioners of the extraordinary circumstances attending her abduction, or that she was confined by the wish of her mother, and *against the wish, and without the knowledge, of three married sisters*, with whom she was not allowed to correspond.* The Commissioners appear to have taken the matter very coolly, and to have acquiesced in the imprisonment of the plaintiff until she had accidentally escaped from the asylum; in fact, they remained quiet until her brothers-in-law had begun to interfere actively in her behalf. In about a month after this application for their official interference, the plaintiff was liberated by their order—the Commissioners having allowed *seventeen months* to pass without taking those measures which, judging from their decision at the eleventh hour, must have led to her liberation long previously! It is impossible to disconnect this decision from the application made by the sisters, notwithstanding the statement of one of the Commissioners, that the plaintiff was discharged on the ground of her "declining health." It is a most remarkable and suspicious circumstance in this extraordinary case, that the plaintiff's health was found to decline only within a short period after her sisters had actually interfered to procure her liberation: but the reason assigned is not in any respect satisfactory. Is it the practice of the Commissioners of Lunacy to discharge real lunatics from asylums on the ground of declining health, and to leave them free and irresponsible, as in this lady's case? If so, what protection is there either for the lunatic or for the public? If not, how can this be assigned as a fair or proper reason for Miss Nottidge's discharge? We can understand that a lunatic who suffers from long confinement in one asylum should be removed to another for the benefit of his health; and that the necessity for such a proceeding should frequently arise; but it is quite new to us—and we suspect it will be a novelty to our medical readers — that because the health of a lunatic declines, the doors of an asylum are thrown open by the order of the Commissioners, and the lunatic is allowed thenceforth to pursue his insane course unchecked and uncontrolled. The assumption appears to us to be so incredible that we must

* We assume that Dr. Stilwell was acquainted with these circumstances, because he states in his evidence that he should *not* have allowed the plaintiff to communicate with her sisters.

look upon this as a reason specially invented to meet the difficulties of Miss Nottidge's case.

The Commissioners of Lunacy, however, appear to have no rule or principle of agreement among themselves when the liberty of the subject is concerned. When their attention had been effectually drawn to the case by the plaintiff's sisters, and they so speedily found that her health was declining, they gave it "as their opinion that there was no abatement of the unsoundness of mind of the plaintiff, nor of her extraordinary delusion on the subject of religion, but *they thought the plaintiff was competent to manage her own affairs.*" What we desire to know is, why this was not ascertained seventeen months earlier? Why was such a decision made only after an urgent application from those near relatives who, except for an accident, would not to this day have known in what "comfortable" asylum their sister was confined as a lunatic!

The evidence at the trial furnishes no answers to these questions; but the Commissioners' certificate of the 1st of May appears to us to prove conclusively that the plaintiff was *ab initio* improperly confined. Of religious delusions, as a justification of confinement in a lunatic asylum, we shall have a word to say hereafter. We may now only remark that if the Commissioners intend to take up a crusade against society on this ground, they will have full employment, and the number of the present asylums will require to be quadrupled, in order to admit those patients who will on this account require locking up.

The plaintiff was discharged while, according to the Commissioners, she was labouring under unsoundness of mind, but still competent to manage her own affairs. This appears to be the united decision of those who considered her case. Dr. Turner and Mr. Proctor, two of the Commissioners who gave evidence at the trial, dissent from this decision, and express an opinion that she was *not* competent, and that she was improperly set at liberty by their colleagues. Mr. Proctor, indeed, considers that the fact of her having transferred her property to Mr. Prince since her release, is a proof that she was and still is insane. In one respect, however, it appears to us that this act is rather a mark of sanity on the part of the plaintiff; for, but for the possession of this property, we do not believe she would have been carried off in a lawless manner and confined in a lunatic asylum for seventeen months. The opinion of the two Commissioners who dissent from the judgment of their brethren as to Miss Nottidge's competency may, however, have its correctness tested by a very simple process. If, as they allege, she was insane when the property was transferred soon after her release, *the transfer is void in law*, and by their aid the mother may recover control over the property of her danghter. They cannot, with such a *bonâ fide* view of the plaintiff's confirmed insanity and incompetency, object to take the opinion of a jury of twelve educated men upon a question so materially affecting personal liberty and the control of property. The plaintiff would then have an opportunity of producing as witnesses on her behalf, those Commissioners who on her discharge pronounced her to be *competent to manage her affairs*, and whose decision would of course fully justify her conduct in making a transfer of her property to whomsoever she pleased.

We think our readers will agree with us that the conduct of the Commissioners of Lunacy throughout these proceedings has not been such as to

secure for them the respect or confidence of the public. It is clear, from their own decision and the verdict of a special jury, that persons possessed of property, and able to manage it, may be most unjustly confined as lunatics. It is desirable that this should be extensively known, and it is therefore with some satisfaction that we quote the following remarks made at the time by one of the most influential of our daily contemporaries. The editor of the *Times* says, in reference to this case:—

"If all these highly-paid Commissioners of Lunacy merely compose a machinery which must be set in motion from without—that is, by a petition drawn up by the alleged lunatic, and forwarded through hands which will of course receive and destroy the application; or else by a fishing application from the friends of a person who has been violently and secretly carried off, setting forth 'that the petitioners greatly suspect that their relative or friend has been wrongfully incarcerated in some asylum or other, and they therefore pray the Commissioners to discover for them if this be so, and then adjudicate upon the case;' if, we say, such means as these are the only available ones to set the machinery of the Commission in motion, we should be nearly as well without it. There are some very striking features in this case of Miss Nottidge, as far as the lunacy officials are concerned. It is stated that this lady's mind had not undergone any change with regard to the alleged delusion throughout her confinement, or at its close; yet, *the facts remaining the same*, at one time they decide that Miss Nottidge *should be retained in confinement; at another they order her instant liberation.* Again, we should be very curious to know if Miss Nottidge had not during the course of her confinement entreated her gaolers or the officials who examined her to be allowed to communicate with her friends. *Is it usual to lock up people in a madhouse on the* ex parte *statements of certain members of the family, when the alleged lunatic implores that others should be heard as well?* Above all, is it not a foul outrage to law and humanity that such a person as Miss Nottidge should have been detained for seventeen months within the walls of a madhouse? This question of the illegal incarceration of persons in madhouses under a trumped-up accusation of insanity is of far greater public concernment than the equipages or hockey-sticks, or any mad freaks of the Agapemone, or any other crack-brained sect."—*Times.*

The case of Miss Nottidge is not the only one in which the Commissioners of Lunacy have shown either neglect or inefficiency. We give below the report of another case of recent occurrence, from which it appears that persons may be easily imprisoned as lunatics upon *ex parte* statements and hastily-signed certificates; and that, even when the places of their confinement are by any accident discovered, there may be some difficulty in procuring speedy redress.*

We have yet to examine the case of Miss Nottidge in reference to the principles which should guide medical practitioners in signing certificates of insanity.

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* Vice-Chancellors' Court, July 12.—(*Before Sir* L. Shadwell)—*In re* Watkins:—Mr. C. P. Cooper applied, *ex parte*, for a writ of *habeas corpus* in this matter, under these circumstances:—Mr. John Watkins, the party on whose behalf the application was made, was now an inmate of the lunatic asylum kept by Dr. Costello, at Brentford, and known as Wyke House. Several affidavits were read in support of the application, by Mr. Donovan, carrying on the trade of a fishmonger in Oxford Street; by Dr. Mason, a physician; and a gentleman named Page. Donovan's affidavit stated that he had known Watkins for twenty years; had met him in business (he, Watkins, being likewise a fishmonger), and always considered him sane, and, having visited him at Wyke House, was still of that opinion. Dr. Mason's and Mr. Page's affidavits likewise went to this point; and it appeared upon them that having become intoxicated, his wife, stating that she considered her life in danger, had procured the required certificate, and caused him to be immured as above. His retreat was, *after some difficulty*, discovered, and an interview with him obtained, when, except being much excited at his situation, having to sleep in a room with thirteen or fourteen lunatics, with the chance of being detained for twelve months, until a commission could issue, it was admitted by Dr. Costello's brother and others that he was not insane, although a little retirement was necessary to calm his mind. It could not be discovered by whom the certificate was signed, nor did Dr. Costello make his ap-

Reviews.

A Treatise on Diseases of the Bones. By EDWARD STANLEY, F.R.S., President of the Royal College of Surgeons of England, and Surgeon to St. Bartholomew's Hospital. 8vo. pp. 363. London: Longmans. 1849.

Illustrations of the Effects of Disease and Injury of the Bones, with descriptive and explanatory statements. By EDWARD STANLEY, F.R.S., &c. &c. Folio plates, and letter-press, pp. 29. London: Longmans. 1849.

IN the preface to the "Treatise on Diseases of the Bones," the author observes—"notwithstanding the references which will be found in the following pages, to another volume, containing 'Illustrations of the Effects of Diseases and Injury of the Bones,' the two works are, in all other respects, wholly distinct." We shall therefore proceed to consider them separately.

Mr. Stanley's Treatise on Diseases of the Bones has long been anxiously looked for by those who were aware that he was engaged on such a work; and they were not a few who were cognizant of the fact. Favourable anticipations have been formed as to the character of the work: it was naturally supposed, that a surgeon of Mr. Stanley's eminently practical talents,—that one so conversant with all the details of anatomy, and so intimately acquainted with operative surgery,—that a teacher so renowned for didactic lucidity and apposite illustration,—and an investigator of such untiring industry,—would produce from a field almost untilled, a truly scientific work; and we can safely assert that such is the character of the volume before us. This treatise will confer a distinct and new renown upon its author, greater far than does the high dignity of the Presidency of the College of Surgeons, which we think in the present year receives additional honour from the work thus emanating from the holder of this high office.

We shall lay before our readers an analysis of the contents of this Treatise, so far as we can afford space for this purpose.

In the introduction the author points out that the diseases of bone are analogous to those of the soft parts, although having their own peculiarities, the most marked of which is slowness of progress; that the influence of symmetry in the development of diseases extends to those of the bones; and that they partake of the effects of some of those disorders of the system which produce depravation of the fluids. In the introduction the author gives an arrangement of morbid ossifications and osseous productions; thus—

"1. Unorganized masses of calcareous salts, found in various tumors, especially in the fibrous tumors of the uterus, also constituting the apparent ossifications in the coats of arteries.

"2. Ossifications of original tissues, as of fibrous membranes, muscles, &c. These are, probably, but the ossifications of one tissue, the cellular, a component of all these structures. All these ossifications of original tissues, when completed, exhibit under the microscope, in different instances, more or less of the characters of true bone.

"3. Growths of perfect bone. Most of these are productions from originally formed bone, but they are not invariably so: some of these growths are found in cellular tissue, and have no connection with the adjacent bones. The osseous tumors growing from bones are of three kinds; one consists in a circumscribed hypertrophy of the bone from which the tumor grows: this is not preceded by cartilage, it is usually cancellous, and its composition is the same as true bone. Another osseous tumor growing from bone is that which is of most frequent occurrence, the

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pearance; and, therefore, a writ of *habeas corpus* having been obtained on the 4th of May, it was served on his brother; and although that writ was not then obeyed, Watkins was ultimately brought up at Westminster, but was taken back to Wyke House until he should be released by order of the Commissioners, although both Dr. Costello and his brother admitted there was no just cause for his detention. One of the Lunatic Commissioners appointed under the 8th and 9th of Victoria, c. 100, then visited Watkins, and a report was made by them, which, however, gave no opinion on the case. In this act the subject of *habeas corpus* was not touched, but that proceeding was still considered equally efficacious by the Commissioners themselves. The third section of the 56th of George III. c. 100, provided that—"In all cases provided for by that act, although the return of the writ of *habeas corpus* shall be good in law, it shall be lawful for the justice or baron before whom such writ may be returnable to proceed to examine into the truth of the facts set forth in such return by affidavit." The Commissioners had no power to release a party until after two visits.

The Vice-Chancellor made the order.

genuine exostosis, which is preceded by the formation of cartilage, is composed of true bone, and is usually a local malady of an innocent nature. The third form of osseous tumor growing from bone includes varieties in respect to its composition and character, and some of these exhibit features of malignancy. One of the most common of such growths is the osteoid tumor of Müller." (Pref. xvi.)

The following is the author's arrangement of the subjects treated of in this volume :—

Part 1.

Chap. 1. Hypertrophy of Bone. Atrophy of Bone.
2. Neuralgia of Bone.
3. Inflammation of Bone. Enlargement of Bone.
   a. by expansion of its tissues.
   b. with induration of its tissues.
   c. by ossseous deposits on its surface.
4. Suppuration in Bone.
5. Caries.
6. Ulceration.
7. Necrosis.

Part 2.

Tumors of Bone.
a. which pulsate.
b. osseous growths from skeleton, and in soft tissues.

Part 3.

Chap. 1. Rickets.
2. Mollities and Fragilitas Ossium.
3. Scrofula in Bone.
4. Hard Carcinoma; Melanosis.

Part 4.

Chap. 1. Morbid Growths from the Jaws.
2. Diseases of Bones of Spine.
3. Diseases of Periosteum.

Following, then, this arrangement, we find the first chapter devoted to the consideration of hypertrophy and atrophy of bone.

Hypertrophy, or the augmentation of the healthy tissue. "Long bones are often thus increased in thickness, but rarely in length. I have, however, seen instances of long bones hypertrophied in their length." "Instances occur of hypertrophy in the tibia whilst the fibula undergoes no change. Under such circumstances, either the hypertrophied tibia will become curved, or the ligaments uniting it to the fibula will yield with the increase of its length; and I have seen instances of both these occurring." Hypertrophy is slow in its progress, and unaccompanied by pain. When occurring in the bones of the face, it may require removal. Inequality in the length of the limbs, the consequence of hypertrophy, gives rise to much inconvenience.

Atrophy the author traces to an impoverished condition of the body, or to the interruption to the supply of blood to the bone, or to want of action, or to defective growth.

Neuralgia of bone.—By this term the author designates "a class of cases in which pain arises in a bone, severe and lasting, unaccompanied by inflammation or other organic change in its tissue, and thus apparently constituting a nervous affection of bone, like the neuralgia of other structures. Such cases occur, as might be expected, mostly in females, and the pain in the bone is often accompanied by other symptoms of hysteria. In the instances of this seeming nervous affection of bone which I have met with, it occurred in the shaft, but more frequently in the condyles of the femur, in the head of the tibia, and in the humerus." (p. 11.)

Inflammation of bone is marked by excessive vascularity and increased sensibility: its products are the same as those from inflamed soft tissues of the body.

"It results from the intimate connection which, in respect to their vascular and nervous endowments, the component parts of a bone hold one with another, that they readily reciprocate their morbid actions: not, however, in an irregular manner, for there is an order observable in the progress of inflammatory changes from one part of a bone to another. Inflammation of the medullary membrane is followed by inflammation in the periosteum and outside of the bone." (p. 18.)

Among the effects of inflammation are enlargement of the bone by expansion of its tissues, with induration also of its tissues, and by osseous deposit on its surface. The treatment is to be conducted according to the same principles as inflammation of other structures. "There is, besides, an internal remedy which never fails to assist in the removal of inflammation from bone. This is iodide of potassium." p. 28.)

Suppuration in bone may be either diffused or circumscribed: the latter is usually situated near to, or within the articular ends of, long bones. Enlargement of the abscess to a considerable extent sometimes takes place "by the combined action of absorption on the inside of the abscess, and of osseous deposit on its outside." (p. 34.)

"*Diffuse suppuration.*—Suppuration of a bone through the cancellous and medullary tissue of a bone is usually a most formidable disease, leading to destruction of the bone and of the soft parts around it, with severe constitutional derangement." (p. 34.)

In speaking of the treatment of suppuration in bone, Mr. Stanley observes—

"The merit of ascertaining the circumstances which indicate the confinement of a small quantity of matter in a circumscribed cavity within bone, belongs to Sir Benjamin Brodie, who has thereby effected a great improvement in surgery." (p. 45.)

Mr. Stanley then treats of perforating the bone, to permit the escape of the pus.

Caries—The condition of bone resulting from suppuration in its cancellous structure. The author thus defines caries, to distinguish this pathological condition from that of ulceration, or "that peculiar organic change which consists in a crumbling or mouldering of its substance." "Caries," the author remarks, "is distinguished into the simple, scrofulous, syphilitic, and phagedenic varieties." With regard to diagnosis, the author observes, that between caries and internal necrosis there are no distinctive characters, and that practically this is of no moment, as the treatment is the same in both cases, the removal of the diseased or dead bone.

Ulceration of Bone "is analogous to ulceration in the soft parts, and the varieties of ulcer in bone are as distinctly marked as they are in other tissues. The ulceration, which is the effect of simple inflammation in its tissue, usually begins at a single point, and spreads equally in width and depth. When, however, the ulceration is consequent on inflammation of the periosteum, it spreads widely over the surface of the bone, but does not, in general, deeply penetrate its surface. Syphilitic ulceration of bone usually begins at many points, distinct, yet close together, giving to the surface of the bone a worm-eaten appearance" (p. 59).

Necrosis "occurs less frequently in the cancellous than in the compact tissue of bone." It occurs most frequently in the shaft of the tibia. "Next to the tibia is the femur in the frequency of its necrosis, and why it should be so is not evident. After the femur the other principal bones may be thus arranged, in respect to their liability to necrosis: the humerus, flat cranial bones, lower jaw, last phalanx of a finger, clavicle, ulna, radius, fibula, scapula, upper jaw, pelvic bones, sternum, ribs" (p. 69).

Among its causes Mr. Stanley enumerates cold, injury by violence, rheumatism, scrofula, syphilis, fever. In addition to these, in reference to the occurrence of necrosis of the lower jaw in lucifer match-makers, Mr. Stanley states:—"It seems well ascertained that the disease is the result of long exposure to the fumes of phosphorous acid, giving rise to periostitis of the jaw, in conjunction with extreme depravation of the health" (p. 74).

The length to which our analysis has already extended prevents our noticing many points of interest and importance in the author's very complete and extended history of the morbid processes and treatment of necrosis. We could not do justice to these within the limits we have left to us. The reader must consult the work itself for the valuable information which will not admit of condensation, occupying, as it does, upwards of seventy pages of this treatise.

Tumors of Bone.—The least objectionable classification or grouping of these has appeared to the author to be that of the principal products found in tumors of bone. These are—1. Cartilaginous, 2. Osseous, 3. Encephalic, 4. Fibrous, 5. Gelatinous, 6. Fatty, 7. Soft and vascular, 8. Fluids of various kinds. Other morbid products, such as the material of melanosis, of hard carcinoma, and of tubercle, are not usually accompanied by the growth of a tumor from it. The characters of each variety are carefully detailed by the author.

Rickets.—The pathological changes

in this form of disease are, according to Mr. Stanley, first "a diminution of its firmness, from the separation of its lamellæ and fibres, accompanied by an altered character of its medulla. Its tubes, cells, and the interstices of its cancelli and fibres, become filled by a serous fluid; at a later stage this fluid is replaced by a gelatinous substance, which becomes organised, and passes into the condition of a moderately firm, elastic tissue, with minute cells dispersed through it. Within this tissue distinct roundish pieces of a bluish semi-transparent substance are occasionally observed: these are apparently some remains of the original fœtal cartilage" (p. 218).

The consequences resulting from the yielding of the bones are dwelt upon at some length by the author.

Mollities Ossium is characterised by "softening of the bones, thinning of the walls, and the accumulation of adipose matter in their tubes and cells." In a case in which we had an opportunity of examining a portion of the calvarium, the natural structure of tubes and cells had disappeared, and nothing remained but a soft mass of irregularly-shaped cavities of various sizes. Mr. Stanley seems disposed to regard the disease as consisting in a wasting or atrophy of the bones; but it is a change of structure.

Scrofula in bone is sometimes preceded, according to the author, by inflammation of the synovial membrane, or of the cellular tissue surrounding a joint. A state of simple inflammation of the bone precedes the removal of the earthy matter and the deposition of scrofulous matter, and this is followed by the deposit of tubercle. These several stages may be found concurrent in different bones of the same subject.

Hard Carcinoma and Melanosis do not occur as primary diseases of the bone. The morbid deposit causes absorption of its cancellous structure and walls, as it gradually extends from the interior to the outside of the bone.

Morbid growths from the jaws, diseases of the bones of the spine, and diseases of the periosteum, conclude the volume, which we are here compelled to close. In dealing with this work two courses suggested themselves to our mind: one, to select some one section as an illustration of the author's style and manner of treating his subject—the other, the course we have followed, of going briefly over the entire contents of the work. The latter, we trust, will prove the more serviceable to our readers. The former, we think, would scarcely have afforded satisfaction either to the author or to the readers of a work which was so much needed both by students and practitioners, and which, from the great mass of information, and the number of instructive cases it records, presents them with the means of acquaintance with a numerous and important class of diseases.

Further comment would be superfluous on a work which every medical or surgical pathologist *must* consult; we therefore pass to the consideration of the volume of illustrations.

We regret that Mr. Stanley should have seen fit to publish these as a distinct work. Although, from the fidelity with which the artist has delineated, and the lithographer has preserved, the several objects represented, the volume of plates possesses, with its accompanying letter-press, all the elements essential to an independent existence; yet we think that both it and the "Treatise" would have been more serviceable had they been incorporated as one volume. We do not think the increased expense would have counterbalanced the advantage of having the various morbid conditions and processes depicted in connection with the text.

These "Illustrations" exhibit the several forms of disease of the bones referred to in the Treatise, we might almost say tangibly, as well as visibly, so accurately is every object represented. They form an extremely valuable contribution to the data of pathological science, and no mean monument of the progress of the art of lithography.

We have noticed only one defect in this otherwise excellent Treatise—namely, the small amount of information which it conveys as the result of microscopical research.

Lunatic Asylum Reports, 1848-9.

We have received the Annual Reports of the following Lunatic Asylums—viz. the Royal Edinburgh 1847 and 1848; the Crichton Royal Institution, Dumfries, 1847; the County of Lancaster, 1848; the Belfast District, 1848; North and East Ridings, Yorkshire, 1848; County of Somerset, 1848. From these we have, so far as their statistics are complete, deduced the following tables and observations:—

The tables of the number of patients admitted into these several asylums during the past year, show a considerable increase on the admissions of the preceding year. How far this may be attributable to political excitement, or to commercial depression, it is not easy to determine without more extended data. Doubtless these causes must have been effective during a period in which both have been manifested in unusual force. This is evident from the fact that in Edinburgh, insanity from moral causes has been 23 per cent. during the last year, and was 12 per cent. in the preceding year. In the Edinburgh asylum an influx of patients accrued from the admission of the incurables of workhouses and other receptacles of the insane, whose guardians had been watching the opportunity of the vacancies occurring from increased accommodation recently provided at that asylum.

The following table will illustrate this feature of these reports:—

TABLE I.—*General Results of the Year.*

	Edinburgh. 1847.		Dumfries. 1847.		Lancaster. 1847.		Gloucester. 1848.		Belfast. 1848.		North and East Ridings, Yorkshire. 1848.		Somerset. 1848.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admitted	1847. 134	117	35	26	62	79	65	62	60	80	31	24	142	142
	1848. 126	120												
Cured	1847. 51	47	17	13	26	21	30	28	31	50	16	9	13	13
	1848. 68	61												
Died	1847. 36	32	4	10	31	35	19	6	18	29	9	1	11	6
	1848. 44	24												
Average number resident during the year	1847. 444		202		663		406		400		105	81	—	
	1848. 491													
Number at the close of the year	1847. 666		1847. 154		1847. 765		1848. 279		1848. 257		—		—	
Number at the close of the year	1846. 418		1846. 146		1846. 611		1847. 275		1847. 260		1848. 105	81	112	121
Increase on the year	48		8		84		4		3		—		—	
Population 1841	—		—		—		26815		—		—		—	

The large proportion of incurables which county and other asylums are compelled to receive, is shown in the following tables, which also illustrate the importance of early treatment, and the ages at which insanity is most liable to occur:—

TABLE II.—

FORMS OF THE DISEASE.	Edinburgh. 1847.		Edinburgh. 1848.		Dumfries.		Belfast.		Somerset.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Mania	30	40	28	38	7	10	96	72	39	62
Do. with Epilepsy .	1	1	—	—	—	—	5	4	—	—
Melancholia . . .	18	25	19	26	3	4	18	19	15	16
Monomania . . .	24	18	27	19	13	15	—	—	13	6
Demonomania . . .	—	2	—	1	—	—	—	—	—	—
Dementia	43	25	41	34	11	1	23	17	28	30
Do. with Epilepsy .	3	2	—	—	—	—	3	0	17	22
General paralysis . .	7	—	6	0	—	—	—	—	6	—
Delirium tremens .	2	—	3	1	1	—	—	—	2	—
Moral insanity (?) .	6	4	1	0	—	—	—	—	5	1

In reference to the suicidal tendency so closely connected with periods of political excitement or financial depression, we quote the following from the Report of the Edinburgh Asylum, by Dr. Skae (Table III.)

TABLE III.

	1847.		1848.	
	M.	F.	M.	F.
Have attempted suicide	5	10	9	29
Have meditated suicide	8	8	6	10

Under the head of Pathology, we find that the brain and nervous centres have presented the usual irreconcilable diversities of morbid appearances. With regard to the liability of the insane to other diseases, we observe that in most of these asylums the patients have been subject to prevailing epidemics; besides which the following table sets before us some of the other special causes of mortality.

TABLE IV.

CAUSES OF DEATH.	Edinburgh. 1847.		Edinburgh. 1848.		Dumfries.		Lancaster.		Gloucester.		North and East Ridings of Yorkshire. 1848.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Apoplexy	2	1	1	2	2	2	—	—	2	—	—	—
Epilepsy	—	—	—	—	—	—	3	1	2	—	—	—
Meningitis	—	—	—	—	—	—	—	—	—	1	—	—
Delirium tremens	2	—	—	—	—	—	—	—	1	—	—	—
General paralysis .	5	1	12	1	—	—	9	—	5	—	3	—
Maniacal exhaustion	3	3	1	1	—	—	2	2	2	—	—	—
Nervous marasmus	1	4	—	—	—	—	2	2	5	1	1	—
Senile exhaustion	2	3	2	1	—	—	—	—	1	1	1	1
Phthisis	9	7	14	7	1	2	2	10	2	—	1	—
Pneumonia	2	1	6	4	1	1	—	—	—	—	—	—
Bronchitis	2	1	2	1	—	—	4	4	—	—	—	—
Dysentery	3	3	1	4	1	1	—	—	—	—	1	—
Diarrhœa	—	5	—	—	—	—	—	—	1	—	1	—
Peritonitis	1	—	1	—	—	—	—	—	—	—	—	—
Fever	1	—	—	—	—	—	—	—	—	2	—	—
Suicide	1	—	—	—	—	—	1	—	—	—	1	—

On reference to this table of the causes of death, it will be seen that cholera has no place in the list of diseases. Dr. Skae, in the Edinburgh Report, states—"On the approach of the epidemic cholera to the neighbour-

hood, I deemed it my duty to use every prudent precaution against its invasion. None of the patients were permitted to visit the city. Restrictions were imposed upon the visits of the friends of the inmates; and all patients admitted, who came from infected districts, had their clothing immediately destroyed, in addition to the practice in all cases of giving them a warm bath upon admission. It is with devout gratitude I have to record, that hitherto the inmates of the asylum have been providentially preserved from this pestilence."

Several new remedies have been tried at the different asylums, but without any notable advantage—often with disappointment. Our readers will not be surprised to hear that among the latter are animal magnetism and electro-magnetism (Dumfries Report, by Mr. Brown, p. 20). Chloroform has been tried by Dr. Skae, at Edinburgh, and found useless as to any curative results, though it has been found convenient to exhibit it in the minor operations, such as the employment of the œsophagus tube, enemata, &c. Although no ill consequence has yet occurred, we do not think, bearing in mind the serious accidents which have attended its exhibition on other occasions, that its employment is warranted for such purposes.

The effects of moral influence, detailed in these reports, are important additions to the already accumulated experience of the superiority of the former over physical restraint. The patients are improved in bodily as well as mental health by out-door work of various kinds, mechanical and agricultural; while within doors the psychical energies are roused by amusements, instruction, and even literary occupation. Reading rooms, libraries, &c., are now provided where the lonely airing ground alone was permitted.

In allusion, however, to the question of non-restraint, we observe that the modern humane views govern the employment of restraint in the asylums under consideration. There is much truth in the following remarks by Dr. Stewart, of Belfast:—"Notwithstanding the unqualified and oft reiterated statement, that 'restraint is never necessary, never justifiable, and always injurious, in all cases of lunacy whatever,' the experience of this institution more and more establishes the fact, that judiciously applied restraint in extreme cases of violent maniacal excitement, and others unnecessary here to mention, is true kindness, and that their disuse is the reverse." We cannot but recognise "restraint" in the padlocked boots, jackets, trowsers, &c., of the non-restraint system. The difference is one only of words. The restraint of the Belfast and other asylums does not differ so widely from the modified coercion of Hanwell and other non-restraint institutions, as does the most stringent restraint of the present day from the most moderate coercion of former ages.

We find, in short, in these reports all the distinctive characteristics of modern psychological medicine—the entire devotion of the medical officers to the interesting but arduous duties which they have undertaken—and the lively interest taken in their generous efforts by the directors and supporters of these institutions. The fruits of science, humanity, and religion, are here brought into vivid contrast with those works of darkness, the asylums of the days of Hogarth.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 27, 1849.

Dr. Addison, the President, in the Chair.

On the Section of the Tendo-Achillis in some cases of Fracture of the Bones of the Leg. By Campbell De Morgan, Surgeon to the Middlesex Hospital.

After referring to the operation of tenotomy, as practised not unfrequently on the continent, in cases of fracture where unusual difficulty is experienced in reducing and keeping quiescent the fractured ends of a bone, the writer related the following cases, illustrative of this practice where the tibia and fibula were the seat of injury, and the tendo-achillis that of the operation. He believes they are the only instances thus treated in this country.

The first case is furnished by Mr. Shaw, in whose practice it occurred. W. S., æt. 40, was admitted into the Middlesex Hospital, Feb. 12th, 1847, having fallen down

stairs in a state of intoxication. Both bones of the leg were broken, and the fracture of the tibia extended through both malleoli, the foot being twisted outwards. Violent spasm of the muscles frustrated all attempts to keep the fractured extremities of the bones in apposition; the slightest movement brought on this spasmodic contraction, which extended to all the muscles of the limb, so as to cause great distortion of the foot, and render the skin over the base of the tibia extremely tense. All the symptoms continuing unabated on the following day, and the suffering of the patient being considerable, Mr. Shaw determined on dividing in the usual way the tendo-achillis, which was very tense. After this all the difficulties ceased, and no further trouble was experienced in the treatment of the case.

The second case occurred in the author's own practice: the patient was a female, æt. 66, of drunken habits, and was admitted into the Middlesex Hospital, in March, 1849. She had been knocked down by a cab, and both bones of one leg were fractured a little above the ankle. The symptoms and condition of this patient were very similar to those of the last, and every mechanical and therapeutic measure which could be suggested to relieve the spasm was tried in vain. The author divided the tendo-achillis on the ninth day, with instant relief to the suffering of the patient, and immediate removal of all untoward symptoms. In less than a month the chasm left after division of the tendon, which was not very great, had disappeared; and a fortnight subsequently she was able to walk on crutches, and the foot was free from deformity.

After some general remarks on the value of the operation in the foregoing cases in relieving suffering and spasm, the author proceeded to remark that he thought so simple and harmless a proceeding as dividing the tendo-achillis might be adopted with advantage in other cases of more frequent occurrence, especially as the cure would not thereby be retarded. He concluded with noticing a remark of M. Bonnet's, that he has frequently divided the tendo-achillis in cases of diseased ankle-joint, where rest was imperative, and the heel was drawn up by the muscles inserted into it.

Case of Monstrosity. By James Bower Harrison, M.R.S.C.E., formerly Surgeon to the Ardwick and Ancoats Dispensary, Manchester. (Communicated by Dr. W. Vesalius Pettigrew.)

The author was called on the 10th of January, 1849, about seven o'clock in the evening, to attend a poor woman who was in labour. On making a vaginal examination he found the membranes protruded in a pyriform tumor, but could not detect through them any part of the child. After the membranes had burst he made a further examination, and felt a soft tumor presenting, which resembled the bag of membranes before it had ruptured. Passing his hand round the tumor he at length discovered a hard substance partially concealed between the tumor and the parietes of the uterus. This hard body was a distorted leg and foot. A ligature was passed round the foot; ergot of rye was given; the pains, before feeble, became stronger; and, with the aid of slight traction, the foot was now brought down, when a finger passed up to the top of the thigh felt a substance which resembled the body of a child having only one leg and no organs of generation; the soft mass being still felt. After some time the whole mass, with the distorted body of the child, descended, and came through the os externum.

The fœtus was a monstrous growth. The soft mass was formed by a hernial protrusion of the abdominal viscera, owing to deficiency of the abdominal parietes below the umbilicus. The navel-string had become detached; the right leg was directed transversely, and the foot curved inwards; the left leg was pushed upwards, out of its proper position, by a second tumor, the sac of a spina bifida, the left foot being curved like the other. The ossa pubis were deficient, as well as the spinous and transverse processes of the lower vertebræ, and the posterior walls of the sacrum. The genital organs were imperfect; the head, shoulders, arms, and chest, were all natural. Some little time having elapsed, the placenta was removed with the hand, the whole being accomplished by about ten or half-past ten o'clock. The mother did well.

The author regards this case as having considerable interest in an obstetrical point of view, particularly as regards the presentation of a soft tumor in the manner described. [A good drawing, by Mr. Stephenson, was exhibited, which showed the distorted form of the fœtus.]

WESTMINSTER MEDICAL SOCIETY.

Saturday, Nov. 24, 1849.

F. Hird, Esq. President.

The Diagnosis of Ovarian Dropsy.

A paper on this subject was read by Mr. Brown.—Amongst the general signs of ovarian dropsy, we must place emaciation of the neck and shoulders, and a peculiar expression of the countenance, indicating, in a marked manner, the presence of this disease. The face is elongated, thin, and partially shrivelled; anxiety and care are strongly depicted

on it; the angles of the nose are drawn downwards; the lips are thinned; the mouth loses its curves, the angle being drawn downwards; the cheeks are furrowed; the eyes are remarkably defined, owing often to the sunken space between the eyelids and the bony margin of the orbit; the skin is thin and pale; in short, the whole of the cellular tissue of the face is atrophied; but, unless the disease be malignant, the skin has not the peculiar aspect which it acquires in malignant disease. The extremities are seldom swollen, as in ascites, and, consequently, the patient can walk about with comparative ease. There is generally, also, but little disturbance to digestion, and usually adequate action of the liver. Respiration, and the action of the heart, are less disturbed than in ascites, but the heart's action is feeble, owing to the diminution in the whole mass of the blood. The special signs are—First, we can generally trace the commencement of this disease from one of the ovaries deep down in the iliac fossa; a tumor pressing between the rectum and the vagina may be felt, either through the walls of the vagina or the rectum, not excessively painful, but elastic; on firmly pressing it, especially if at the commencement of the formation of the tumor, you can get it between the thumb in the rectum, and the middle finger in the vagina; but you can also frequently feel an egg-like enlargement around the ovary, through the abdominal parietes, especially if you flex the thighs on the abdomen, so as to relax the muscles. The tumor gradually and definitely increases, still maintaining a rounded outline, and ascends from the pelvic cavity to the abdominal, rising in the front of the bowels, and distending the abdominal parietes: it sometimes reaches the ensiform cartilage, pressing up the liver, stomach, pancreas, and spleen, so as to elevate the diaphragm, and thus contract very considerably the thoracic space. This tumor, which, as it ascends, becomes more fluctuating, occupies the side from which it originates; but whilst it throughout retains a preponderance towards that side, it gradually extends to the opposite. The veins of the abdomen are generally much increased in number and size. The sac containing the fluid being circumscribed, the indications afforded by percussion are also circumscribed, and the sounds on percussion are of course dull over the sac and resonant over the surrounding intestines. On examination per vaginam, fluctuation can be generally felt through its walls, and the vagina itself is elongated and drawn up, sometimes even under the arch of the pubis; the uterus is also either drawn up or pressed back on the rectum; the cyst is generally round and smooth on feeling it through the parietes of the abdomen, and moveable from side to side, and is not materially altered by change of position, either recumbent or upright. These special signs apply more particularly to unilocular ovarian dropsy. In multilocular, we almost invariably have an uneven and irregular surface of the cyst, and generally one or more solid tumors, which appear inelastic and without fluid; but in very many cases these tumors will be found to be additional cysts, containing fluid, tense, owing to the pressure of the fluid in the larger one. Mr. Brown had frequently found this to be the case; and this was proved by evacuating the contents of the larger cyst, and again introducing the trocar through the canula still in the opening, thrusting it into the apparently solid tumor, and finding immediately an escape of fluid. On examining a multilocular cyst, fluctuation is not very distinct, if you examine the entire cyst; but if you tap over any one of the sacs fluctuation is apparent, but only over that one, not being at all communicated to the adjoining cyst or cysts; where, however, the fluid is gelatinous or albuminous, fluctuation cannot be so readily felt. The same observation applies to those cases containing thick, cheesy matter, mixed with pus, and sometimes also with hair. But we have also distinct solid tumors in connexion with these fluid ones; and then there is no sense of fluctuation. This observation applies both before and after evacuating the contents of the fluid cysts. Having ascertained the nature of the tumor, so far as to say whether it is unilocular or multilocular, the next important subject is as to the presence of adhesions. In examining for adhesions, Mr. Brown directs that the patient should be laid in the horizontal posture, and be made to flex the thighs on the abdomen so as to relax the abdominal parietes; he then moves the cyst from side to side. If this is readily done, he knows there are adhesions. Again he places his hand firmly on the relaxed parietes, and moves them over the cyst. If they move readily, he knows there are no adhesions on the upper and lateral surfaces of the cyst. Again, as the parietes are thin in this disease, he grasps and puckers them up, and then moves them over the cyst, and also observes whether they gather up readily, without raising the cyst itself. If he found these three indications, Mr. Brown determined there were no adhesions. Another plan, for which he was indebted to his friend Dr. Sibson, is based on the extent to which the contents of the abdomen are forced downwards during a deep inspiration, by the descent of the diaphragm. If there be no adhesions in front, the upper boundary of the ovarian tumor descends to the extent of an inch during a deep inspiration, the place previously occupied by the tumor being now taken up by

the intestines; consequently, if you percuss over the upper part of the tumor, a dull sound is elicited during ordinary respiration; but when the patient takes a deep inspiration, an intestinal resonance is there perceptible. Mr. Brown then alluded to those diseases which may be mistaken for ovarian dropsy, and slightly remarked on their peculiar signs. They were—1st, retroflexion and retroversion of the uterus; 2ndly, tumors of the uterus; 3rdly, cystic tumors of the abdomen; 4thly, ascites; 5thly, pregnancy; 6thly, distended bladder; 7thly, distended bowels from flatus; 8thly, fæces in the intestines; 9thly, diseased viscera of the abdomen.

Medical Trials and Inquests.

ACTION FOR SURGICAL ATTENDANCE AND THE SUPPLY OF MEDICINES. WANT OF UNIFORMITY IN CHARGES FOR MEDICAL ATTENDANCE.

EXCHEQUER CHAMBER.

December 4.

Before the LORD CHIEF BARON *and a Common Jury.*

VICKERS *v.* SHIPTON.

MR. KNOWLES and Mr. PULLING conducted the case for the plaintiff, and Sir F. Thesiger (with Mr. Hayes) appeared for the defendant.

This was an action by which the plaintiff sought to recover from the defendant the sum of £38. 17s., and a further sum of £3. 3s., for surgical attendance and medicines supplied.

The defendant paid the sum of £25 into court, and pleaded that beyond that amount he was not indebted.

It appeared that the plaintiff is a surgeon of some eminence, in large practice, at the west end of the town, and that the defendant is a retired attorney of an advanced age and feeble constitution. On the 23rd of November, in the year 1847, the defendant was a passenger by one of the trains of the Great Western Railway at Maidenhead, for London, when, as they were arriving at the Slough station, their train was met by a luggage train, and an iron bar which ought, but for the negligence of the servants of the company, to have been securely bound round one of the luggage vans, came in contact with the lamp of the carriage wherein the defendant was seated. Observing this concussion, and the danger which threatened him, the defendant was in the act of rising to avoid the blow, when he was struck with much violence upon the cheek, by which not only were two of his teeth knocked out, but his jaw was fractured. Upon their arrival at Slough, the defendant was taken out of the carriage, and the company's servants instantly sent off to obtain the medical attendance of a Mr. Morblad, a surgeon in the village. On making an examination of the fracture that gentleman advised that the defendant should submit to have the fractured portions of the bone removed. To that proposal, however, the defendant demurred, remarking, as well as he could speak, that he should prefer consulting his own medical friend before such a course were adopted. That medical friend proved to be the present plaintiff. Eventually, the proposition of Mr. Morblad was not acted upon, and the defendant was removed to London, labouring under severe and painful suffering. Upon their arrival at the Paddington terminus, Mr. Morblad accompanied the patient to the house of the plaintiff, at 32, Baker-street. From that gentleman's presence the defendant was conveyed to Forde's Hotel, in Manchester-square, where he was attended and most skilfully and carefully watched and treated by the plaintiff. Indeed, it would appear that he had done everything that skill, energy, and kindness could suggest for the alleviation of the defendant's sufferings. When the defendant had got somewhat better he was removed to lodgings he had on former occasions occupied in Harley-street, and there he continued, as heretofore, to receive the attendance of the plaintiff. He was also visited by the late Mr. Liston, the eminent surgeon, who said that he regarded the result of the plaintiff's care and skill as a triumph of surgical art, and as a monument of skill which he or any other medical man might justly be proud of. In consequence of the great care and skill which the plaintiff had exhibited in the treatment of the case, the defendant's jaw was set, and finally preserved, and in the end he had effected a most perfect cure, and the defendant had ever since enjoyed excellent health. In the course of time the defendant commenced an action against the Great Western Railway Company for compensation for the injury he had sustained. The Company had made an offer of 300*l.*, and to pay all the costs incurred, by way of compromising the action. It chanced, however, that this proposition was declined. Upon the day on which the trial was to have come on, the company having in the meantime made some further inquiries as to the nature of the accident and the sufferings the defendant had undergone, as well as the extent of the medical attendances, they increased their offer to 400*l.*, and the payment of all costs. This second proffer was accepted. By and by, however, the present defendant cavilled at

the amount which his medical attendant, to whom he had been indebted for the preservation of his jaw, had charged, and therefore the present action had been brought for its recovery; and in reply, the defendant had urged that 15*l.* would be ample remuneration, and eventually he had paid 25*l.* into court, and pleaded that to no larger sum was the plaintiff entitled.

In support of the case for the plaintiff, it was proved that the case had been one of extreme danger, the more so as erysipelas, and even delirium tremens, was very liable to supervene; and that, although it had been recommended by Mr. Morblad that the fractured portions should be removed, the skill and constant attention of the plaintiff had rendered such a violent course to be submitted to by the patient unnecessary. It was also proved that the attendance of the plaintiff had been constant, frequent, and on many occasions of protracted duration; that those attendances had in point of number amounted to 37; and then it was stated by several medical practitioners that the charges which had been made by the plaintiff were fair and reasonable, and that the custom with a general practitioner was to charge half a guinea for an attendance, and in some cases also to charge for the supply of medicine at a price somewhat lower or about the same as that charged by the druggists, instead of the ordinary charge of an apothecary. It did not appear, however, by the testimony of these witnesses, that there was any general rule or custom in the profession as to the mode of charging.

Several letters were put in during the trial, of which the following is one, and would appear to have been written for the purpose of obtaining the plaintiff's account, in order that its amount might be taken into consideration in the compromise which was about to be entered into with the Great Western Railway Company. That letter was in these terms:—

"Dec. 18, 1847.

"My dear sir,—The lawyers will be glad if you will give them a short memorandum of the state I was in when brought to you, and also how I have gone on since, and what your opinion is of the ultimate injury I shall sustain. Of course my 'pluck' and spirits are not to determine my injury, though I have no doubt had I 'funked' I should have been in bed now, or perhaps in company with poor Liston.

"Mr. Cartwright says, it cannot be proved for a few weeks whether the bone has set or not, or whether it will come out. Under any circumstances two more of my teeth are to be extracted, and perhaps three. A portion of the bone came out last night. I am getting weaker instead of stronger, but I suppose I must take medicine to strengthen me. I have had a sort of muscular spasms all down my back, but particularly in the lower regions, something like lumbago. I should like to see you if you drive by my rooms.....If I don't see you I should like to have your statement to-morrow.

"Yours truly,

"J. Shipton."

Sir F. Thesiger, on behalf of the defendant, said, it was not his intention to disparage the skill or abilities of the plaintiff in the case. No doubt the services of that gentleman had been of great value to the defendant, yet, even though they had been so, he was prepared to contend that the charges for those services were extravagant, and that the sum which the defendant had paid into court, namely £25, was an ample payment.

A number of medical gentlemen were called to show that the charges were exorbitant, and very different from those which they should have made in a similar case. The majority of these witnesses appeared to think the custom of general practitioners, in respect of their charges, was, that where they charged half-a-guinea for the visit they did not make any charge for medicine, but that in cases where the medicine was charged, then there was either no item for attendance, or at all events a very much smaller one—5s., or 3s. 6d. even. Where a consultation was held, the general practitioner would charge one guinea, and if the attendances were of lung duration, probably more than half-a-guinea would be charged; but they stated that if the particular case were of a nature to demand a second visit in the course of one day, they would not, as the plaintiff seemed to have done, charge for that second visit. The plaintiff's account exhibited 43 visits, and a supply of 40 draughts, 19 bottles of lotion, some box or boxes of ointment, and some lint.

The Lord Chief Baron said that he had been making a calculation of these items: it was this—if 5s. were charged for each visit, that item would amount to £10. 15s.; if 1s. were charged for each draught, that would be £2 more; if the 19 bottles of lotion were put at 3s. 6d. per bottle, that would be £3. 6s. 6d.; and then 3s. 6d. for the ointment and lint; so that, taking all these items together at that calculation—for, with respect to the visits, the witnesses for the defendant said that 5s. was the usual charge where the medicine was made a chargeable item of— at that calculation, therefore, all the items would amount to £16. 5s. Now the defendant had paid £25 into Court. He did not say that the latter sum was too much or too little; that was a question altogether for the jury to determine.

Mr. M'Cann, of Parliament Street, stated that his charge would be half-a-guinea a visit in such a case, without charge for medicine; or if the medicines were charged for, he should not charge the visit, if in town.

Cross-examined.—He thought a guinea for a visit was fair and reasonable, if it could be got. (Laughter.)

The Lord Chief Baron.—Or two guineas, perhaps?

Mr. M'Cann.—No doubt; for they all took as large a fee as they could get. (Renewed laughter.)

Sir F. Thesiger asked one of the witnesses whether he would not make a charge of a larger fee to a duke or a marquis than to a person in a lower condition of life.

The Lord Chief Baron could not think this was a fair question to put in the present case. Rank had nothing to do with it.

Sir F. Thesiger submitted that it was important that he should show that fact. For instance, he himself should not expect to be charged so high a fee as his Lordship. He should expect that his Lordship would be charged more than himself. (Laughter.)

The Lord Chief Baron.—I should hope not, Sir Frederick; for I dare say that your income is considerably larger than mine. (Renewed laughter.)

Mr. Knowles replied, and

The Lord Chief Baron told the jury that he had been endeavouring to discover whether there was any general rule or general custom of charging amongst the medical profession, but he had watched and searched without the least approach to success. The question, therefore, remained for them to say whether the £25 which had been paid into Court was a sufficient and fair sum as a remuneration for the very valuable services which the plaintiff had rendered to the defendant. He could not avoid saying that it was to be lamented that the defendant, who had retired from the legal profession, should have forced the plaintiff, as well as himself, into all the terrors and expenses of a lawsuit in such a matter, especially as he was now enjoying all the benefits arising from the plaintiff's skill. It would have been far better had he called in some mutual friend to arrange the affair.

The jury retired at half-past 2 o'clock, and returned into Court at 25 minutes to 5 o'clock, with a verdict for the plaintiff—damages £40, including the £25 paid into Court.

Correspondence.

M. RICORD'S TREATMENT OF PHYMOSIS.

Sir,—My attention has just been called to the following extract from a lecture of Mr. Bransby Cooper in a recent number of your journal; and I have been asked by a former pupil of M. Ricord if that gentleman does, or ever did, entertain the opinions here expressed:—"If, then, it is found that the discharge continues obstinately, and that there are sores beneath the prepuce, it must be divided; and if small warty excrescences be perceived the prepuce ought to be freely laid open. For such a case Ricord would inoculate the patient with some of the matter; and if a chancre were the result he would proceed at once to administer mercury, upon the conviction that the disease was specific in character." (p. 872.)

I should not have troubled you, with the following refutation of the statement that "if a chancre were the result he would proceed at once to administer mercury," did I not find that some of the senior members of the profession in London entertain similar opinions to those of Mr. Cooper, and as such opinions sap the very foundation of the important investigation M. Ricord has made on inoculation, I feel called upon to state, in as few words as possible, what I believe my friend and preceptor, M. Ricord, really thinks to be the object of inoculation, and of the truth of which daily observation in Paris and London has convinced me.

In the first place, inoculation has settled many theoretical points, which previously to M. Ricord's investigations were believed by some and doubted by others. It has proved that gonorrhœa and syphilis are two distinct diseases. It has explained why a discharge from the urethra may be followed by secondary symptoms, in consequence of the existence of a chancre in the canal.

In medico-legal inquiries it will often enable a surgeon unhesitatingly to decide upon a sore (situated in some suspicious place) being either an ulcer or a chancre, as in instances of intractable sores on the lip, nipple, or anus. It has already shown that true syphilitic sores will get well without mercury; this, previously to our knowledge of inoculation, it was impossible to prove, particularly as it had been asserted that such sores were nothing but simple ulcers: inoculation, however, decided that they were chancres.

These, then, are some of the practical benefits we derive from inoculation, and I hope I have mentioned enough instances to prove the value of the test. But when we inoculate a patient, and the characteristic

pustule is produced, neither M. Ricord nor his pupils "proceed at once to administer mercury:" such a doctrine we repudiate. On the contrary, as shown by our experiments, inoculation has thousands of times proved "the conviction that the disease is specific in character," can be cured, and is under our treatment entirely removed in the majority of cases without mercury. I may add, the giving or withholding mercury after inoculation has produced the characteristic pustule, depends upon far different grounds than those Mr. Cooper supposes M. Ricord to act on. Daily observation on the treatment of others incontestably proves the danger of indiscriminately giving mercury. Experience would, indeed, have been thrown away on us, did we, in the nineteenth century, continue to give mercury in this wholesale way. On the contrary, practice tells us we can cure the simple chancre locally, with water dressing; the phagedenic and irritable ulcer with iron; sloughing phagedena with opium; and many forms, even of the indurated Hunterian chancre, with potash: we thus reserve mercury almost exclusively for some forms of indurated chancres which still require the mineral. Instead, then, of being the mercurialists we are supposed, we prefer placing ourselves among the eclectic school; neither altogether withholding mercury, as some have done, nor indiscriminately giving it, as was the case a few years ago in this country.

That the preceding observations may not be without interest to your readers, and contribute to the modern doctrines of syphilis being better understood, is the sincere wish, sir, of

Your obedient servant,
W. Acton.

46, Queen Ann St., Cavendish Sq.,
Nov. 1849.

OUT-PATIENTS AT PUBLIC HOSPITALS AND INFIRMARIES.

Sir,—Amongst the many grievances of which the medical profession have to complain, I think the following one not the least, and it appears to me to be generally overlooked: I allude, sir, to the indiscriminate admission of out-patients to charitable institutions. This is a growing evil, and I am convinced that it operates most injuriously upon our interests individually, as much as collectively. The late Mr. Callaway, whilst prescribing for the out-patients at Guy's Hospital, used frequently to remark to me the lamentable want of discretion and restriction; and which was, in his opinion, a gross fraud practised on the governors, as well as the profession. A very eminent physician, who was mainly instrumental in forming an excellent institution, recently left it in disgust, because persons well able to remunerate medical men, were allowed to be out-patients, without the slightest inquiry as to their circumstances. I could enlarge much upon this subject, but refrain from further intruding upon your pages, than by mentioning, that at the Ophthalmic Infirmary, in Moorfields, I know that one-half of the patients can afford to pay the surgeon his fee, and in many instances, applicants dress shabbily, and even borrow their servants' bonnets and shawls, in order that they may not be detected plundering the surgeon of his guinea. Now, to remedy this abuse, I would suggest that each applicant be compelled to bring a note of recommendation from the clergyman, or a medical man, in the district where he lives; and thus a satisfactory inquiry being necessarily made, as to the character and circumstances of the person petitioning gratuitous advice, the original design of the governors would be affected, by only the truly deserving receive assistance.—I am, sir,

Your obedient servant,
Joseph Hodgson.

1, Spital Square,
December 1st, 1849.

ON THE TREATMENT OF CHRONIC BRONCHITIS.

Sir,—Having found the treatment I am about to describe extremely efficacious in very many cases of chronic bronchitis, while district surgeon to the city parish, may I request you to give it a place in your journal, should you think it worthy of that honour.

I am, yours respectfully,
James Kirk, M.C.

Chronic bronchitis, pulmonary catarrh, or humoral asthma, generally commences as a common cold, caught in the winter or spring months: it may follow a severe or neglected attack of acute bronchitis, or it may be the sequel of small-pox or measles, of hooping-cough, influenza, or continued fever. It commonly continues for a month or two, then almost entirely disappears, but returns during the following winter with increased severity, every fresh attack being generally of a graver character than its predecessor; while at the same time, from the exhaustion induced by previous attacks, the patient is less able to resist the present; and when it has existed in a severe form for any considerable length of time, it will not unfrequently be found to be complicated by, or accompanied with asthma, emphysema pulmonum, diseased heart, or dropsy.

Symptoms.—When called to visit a case of this kind, we generally find the patient to be an aged or elderly person, often feeble and emaciated, perhaps living on a ground

floor and possessing few of the comforts of life; who, on being questioned, tells us that he is troubled with a constant cough and difficulty of breathing, which he has had for several years, but that it never was so bad as at present. If the case be at all a severe one, we find in addition that he complains of pain at the pit of the stomach, in the back, and in the head, and all these increased in severity when the cough is present, and that it (the cough) is sometimes so severe as to cause vomiting or waterbrash. We frequently also find the cough occurring in paroxysms, lasting an hour or more, especially in the fore part of the night, after the first sleep, and early in the morning, showing the bronchitis to be complicated with asthma. In addition to this, his expectoration is frequent; it may be either copious or scanty, and varies in colour and consistence, as it changes its character from mucus to pus: and in proportion as it is easy or difficult, so does the patient breathe with freedom or difficulty, the tenacity of the expectoration indicating the amount of inflammation present.

On applying the stethoscope to the walls of the thorax, the respiratory murmur is found to be more feeble than natural; and either the sonorous, sibilous, or mucous râle, or all of them, may be heard in different parts of the chest, or they may be present at one time and absent at another. Perhaps of them all, the sonorous râle is heard most frequently. Besides this, the patient is generally weak and emaciated, his pulse slow and feeble, his bowels costive, and his appetite bad: he is confined to bed or sits by the fire, and frequently presents all the external characters of phthisis—the cough, difficulty of breathing, emaciation, purulent expectoration, and even the hectic fever, being all present in extreme cases.

Treatment.—We generally find it necessary to have recourse to the following measures, using all of them, or such of them only as seem to be more particularly indicated:—

1st. Should the patient be hot and feverish, with symptoms of acute inflammation of the bronchial mucous membrane, added to his old bronchitis in consequence of a fresh exposure to cold or wet, and have strength sufficient to bear it, by far the best medicine he can take is the following:—℞. Calomelanos, gr. viij.; Pulv. Opii, gr. ij.; Tart. Antimon. gr. j. M. et divide in pulveres viij. One to be taken every six hours, till the mouth becomes slightly affected, by which time all the symptoms will be greatly relieved, when they are to be gradually withdrawn. Or, should the patient be a person to whom it is not advisable to give mercury—for example, a scrofulous or phthisical subject—he may take a teaspoonful of a grain solution of tartar emetic every second hour (except when asleep) till all the urgent symptoms are relieved, when the dose may be diminished, and finally withdrawn. A blister, the surface of which has been rubbed over with olive oil, put over the mid sternum, and kept on for six or eight hours, will contribute greatly to his recovery; but in general bleeding is not well borne by patients of this class.

2nd. When the case is quite chronic, without thirst or fever, we give the following mixture with great benefit to the cough:—℞. Aceti Scillæ, ℥ss.; Mucilaginis, ℥j.; Syrupi simp. ℥ss.; Tr. Opii, ℥j.; Aquæ ad uncias sex. M. Dose, a dessert-spoonful when the cough is troublesome. In addition to the above, we always prescribe the following liniment (Stokes):—℞. Ol. Terebinth. ℥iij.; Acid. Acet. fort. ℥ss.; Aquæ puræ, ℥iiss.; Ovi vitell. unius. M. To be rubbed over the front and sides of chest once or twice daily with a sponge. If, as frequently happens in elderly people, the patient is of a very costive habit, the above mixture cannot be given, on account of the laudanum tending to increase the costiveness. In such a case we may give the following electuary, imitated from one of Graves's, of Dublin, with the best effects:—℞. Syrupi Empyreumatici, ℥iv.; Supertart. Potassæ, ℥j.; Sulphuris loti, ℥ss.; Pulv. Zingiberis, ℥j. M. Dose, a teaspoonful three times daily.

3rd. If the patient is feeble and emaciated (and this happens in the majority of chronic cases), tonics are indicated, and the one we have found most benefit from is quinine in the dose of a grain, in half a glass of port wine, three times a day.

4th. If the patient is old, with great prostration of strength, difficulty of breathing, and oppression at the chest, with inability to expectorate—in fact, with symptoms of suffocation (peripneumonia notha), we must give the following:—℞. Carbonatis Ammoniæ, ℥j.; Aquæ Menth. Pip. ℥viij.; Solve. Dose, a tablespoonful every hour till relief is obtained. It will also be advantageous to cover the whole front of the chest with a flannel wrung out of warm water, and well sprinkled with spirit of turpentine, to be kept on as long as the patient can bear it. Cases of this kind usually occur in very cold frosty weather.

5th. When, in addition to his usual cough during the day, the patient has a paroxysm lasting an hour or more, occurring after the first sleep, or early in the morning, in consequence of his bronchitis being complicated with asthma, he should take the following draught when the fit comes on:—℞. Tr. Lobeliæ Inflat. ℥j.; Aquæ Cassiæ, ℥j. M. This will relieve the difficulty of

breathing in a few minutes, free expectoration follows, and the patient falls asleep.

6th. The patient should always wear flannel next the skin, and if ill during the winter season a small fire should be maintained in the room in which he sleeps, night and day; for should the fire be allowed to go out, the temperature of the air of the apartment sinks, and an increase of the cough is the immediate consequence.

7th. If the bowels are costive, as is commonly the case in this disease, by far the best laxative is the pill alone, and assafœtida of the Edinburgh Pharmacopœia, in doses of ten grains every second night: it both acts effectually as a laxative and serves also to dispel the flatulence which so commonly attends this complaint.

The above treatment is to be continued in whole, or in part, till the patient gets better: it will take a longer or shorter time to accomplish this end in proportion to the slightness or severity of the attack; and though it contain nothing new or original, yet I can truly say, speaking from experience, that it is extremely valuable in a very numerous and troublesome class of cases.

Glasgow, Nov. 27, 1849.

Medical Intelligence.

UNIVERSITY OF LONDON.

BACHELOR OF MEDICINE. SECOND EXAMINATION—1849.

First Division.

Armitage, Thomas Rhodes, King's College.
Ayre, William, London Hospital.
Barron, Edward Enfield, Guy's Hospital.
Black, Cornelius, Edinb. Sch. of Medicine.
Colborne, William H., University College.
Devenish, Samuel Weston, Guy's Hospital.
Drew, Joseph, Roy. Manchester Sch. of Med.
Morris, James, University College.
Salter, Samuel James Aug., King's College.
Statham, Sherard F., University College.
Whitaker, Edmund, University College.

Second Division.

Bartley, Robert T. H., Bristol Med. School.
Chuckerbutty, S. G. University College.

EXAMINATION FOR HONOURS.

Physiology and Comparative Anatomy.

Black, C. (Scholarship and Gold medal), Edinburgh School of Medicine.
Morris, J. (Gold medal), University College.
Ayre, William, Colborne, W. H. } equal { London Hosp. / Univers. Coll.

Surgery.

Drew, J. (Gold medal) . . . , Morris, J. (Gold medal) . . . } equal { R. Manchester Sch. of Med. / University College.
Black, Cornelius, Edin. School of Surgery.

Medicine.

Statham, S. F. (Gold medal), Univer. Col.
Black, C. (Gold medal) Edin. Sch. of Med.
Drew, Joseph, Roy. Manchester Sch. of Med.
Ayre, William, London Hospital.
Morris, James, University College.
Armitage, Thomas Rhodes, King's College.

Midwifery.

Black, Cornelius, Edinb. Sch. of Medicine.
Armitage, Thomas Rhodes, King's College.

M.D. EXAMINATION.—1849.

First Division.

Beck, Thomas Snow, University College.
Chuckerbutty, S. G., University College.
Evans, John Owen, University College.
Goodridge, H. F. A., University College.
Harling, Robert D., University College.
Hawksley, Thomas, King's College.
Hensley, Frederick John, King's College.
Ramskill, Jabez Spence, Guy's Hospital.

*** Want of space prevents us from giving the examination papers in this number. They shall be published next week.

THE CHOLERA AT ST. BARTHOLOMEW'S HOSPITAL—ITS TREATMENT AND THE RESULTS.

THE following official report of the treatment of cholera at St. Bartholomew's Hospital has been recently issued:—

It appears that from the 6th October up to the present time, there has been no case of cholera in this institution, and the wards appropriated for the reception of fifty cholera cases have now been cleared and fitted for the reception of the usual surgical cases.

"The first admission this year of cholera patients was on the 17th of June; from which period to the 6th of October, 478 cases have been treated by the three physicians and the apothecary—viz., 253 males and 225 females, whilst the deaths have been 199.

		Deaths.
Under the care of Dr. Hue	145	63
,, Dr. Roupell	170	63
,, Dr. Burrows	163	73
	478	199"

The deaths were to the cases as 1 : 2·4, or 42 per cent.

According to the report of the physicians, "The majority of the cases presented examples of the disease in its most virulent form; some in its early, but the greater

proportion in its more advanced and intractable stage. 279 were happily discharged convalescent, and many, before they actually left the hospital, were still further assisted with pecuniary means from the excellent Samaritan Fund.

"Although we have to lament that so large a number as 199 out of 478 sank under the malady, still we can venture to assert that not only were their unavoidable sufferings alleviated, but that these our poorer brethren, in their extremity of need, enjoyed comforts and attentions, and even luxuries, which could hardly be obtained by the noble and wealthy on the sudden seizure and in the rapid progress of spasmodic cholera.

"Immediate attendance, medical and general, may surely be estimated as the greatest blessing in the hour of racking pain and helplessness of disease; and here the precious boon was instantaneously tendered. No sooner is the patient admitted and conveyed to his bed, than a delicious hot bath is glided so gently and so noiselessly to his side, that the lightest sleep of the sick in the adjoining beds is unbroken by its movement. Then, quickly stripped of his garments, he is in a moment immersed into it, and enjoys at least a temporary and balmy exemption from the painful cramps and convulsions which had previously harassed him. Again, as soon as the poor patient is placed in bed, removed into warm blankets, and supplied with every method by which his own natural heat may be kept up, frictions are employed by the nurses, medicines administered, and the urgent thirst is slaked with refreshing beverages, and with the much longed for drink, 'ice-cold water.' The internal burning heat is even for a time allayed, and the irritable stomach soothed by swallowing morsels of American ice, largely and liberally allowed.

"It will be a source of happiness and thankfulness to all to learn that only one of those engaged in the service died of cholera, although Mr. Wood, the apothecary, some of the clinical clerks, and the sisters of the wards, suffered more or less severely from those symptoms which were premonitory of cholera, and which were arrested by a short and temporary suspension of their duties, or might otherwise have led to a fatal result."

*** It will be perceived that the cold-water treatment so strongly advocated by Mr. J. G. French in 1832, was here resorted to with marked benefit to the patient.

It is desirable that the other great public hospitals of the metropolis should furnish the profession with the results of their cholera practice, by the publication of similar reports.

INQUIRY ON CHOLERA.

An inquiry into the history of the cholera in its recent visitation to the different countries of England and Wales, which, if duly responded to, cannot fail to excite interest, has been set on foot by the Provincial Medical and Surgical Association, and the following questions have been addressed to each member of that body. We have been requested by the President of the Association, Dr. Hastings, of Worcester, to publish them in the Medigal Gazette, in the hope that those our readers who have been engaged in cholera cases will kindly assist in the inquiry, by forwarding their replies to Mr. Hunt, of Bedford Square.

The following notice appeared in the Provincial Medical and Surgical Journal, Sept. 19th, 1849, viz.:—

"In compliance with the resolution passed at the annual meeting held at Worcester, the annexed questions have been carefully framed, and it is earnestly requested by the Council, that the members of the Provincial Medical and Surgical Association will assist in this laudable purpose, by forwarding as full and complete a series of answers as possible, to Mr. Hunt, 26, Bedford Square, London, who has kindly undertaken the inquiry.

"Charles Hastings,

"*President of the Council.*

"*Questions.*

"1. During the prevalence of the epidemic, has your own neighbourhood, town, or district, been *exempted* from the visitation If so, can you mention any local circumstances which may account for the exemption? Was the district healthy during the visitation of the cholera about the year 1832, and did circumstances then exist which may be supposed to have protected it?

"2. If the cholera* *has* appeared in your district, how many cases have you seen;—how many of these have been fatal?

"3. *When* did the disease break out, and *how long* did it prevail? Please to state generally, whether many persons were simultaneously attacked or otherwise; and whether it commenced contemporaneously in more than one *site* in the same town or district, or whether it appeared to spread from one point only. Were there any peculiar circumstances observable in its local character, or in the course or direction of its advance, which may throw any light upon the important question, whether the disease be of a *contagious*† nature or otherwise?

* "It is proposed, to avoid confusion of terms, to restrict the term *cholera* to cases of vomiting, "rice-water" purging, and cramps: the term *bilious cholera*, to vomiting and purging of bile, with cramps; and the term *diarrhœa*, to profuse alvine discharges, without either vomiting or cramps.

† "A house or district may be *infected*, so as to spread a disease not strictly *contagious*. Respondents are therefore requested to confine the latter term to evidence of communication by personal approach or contact.

"4. Have you invariably been able to trace the disease to *local impurity of the atmosphere*, or have you seen it attack persons living in a pure air, apart from graveyards and other sources of putrefaction, in well-drained and well-ventilated dwellings? In cases of the latter description, if any have been observed, has there been any intercourse with the sick which may tend to establish the doctrine of *contagion*, or the reverse?

"5. Did the cholera appear in your neighbourhood *with* or *without* the general and contemporaneous appearance of the *milder forms* of disease—diarrhœa, bilious cholera, &c.? Has dysentery or typhus been prevalent or otherwise?

"6. Were its ravages indiscriminate as to personal vigour, age, sex, station, occupation, &c.; or might the attacks be traced to some *predisposing personal cause*,—as weak bowels, intemperance, debility, fear, errors in diet, uncleanly or sedentary habits, or impaired health from any cause?

"7. Were 'premonitory' symptoms of general occurrence, or did the disease frequently appear suddenly in the malignant form, with violent cramps, vomiting and purging, 'rice-water' dejections, and rapid collapse?

"8. Did the symptoms differ from those generally observed and frequently described? Had the disease any peculiar type either of mildness or malignity?

"9. Are you aware of any exempting circumstances of any description, which have uniformly protected certain individuals from the disease,—such as trades, habits, diet, &c., not inclusive of local habitation?

"10. Can you throw any light on the *physical origin* or remote cause of the recent or former visitation? Are you able to say, from your own observation, that the general symptoms and history of both are similar? Have you instituted any researches into the density, humidity, temperature, or electro-magnetic phenomena of the atmosphere? Have you observed the progress of the cholera to be arrested by storms, wind, or rain?

"11. Have you made any *post-mortem* examinations of fatal cases of cholera, and with what result? Do you know of any circumstances which justify the immediate interment of the dead? Did you ever observe cholera patients show signs of organic life for hours or days after apparent death?

"12. Can you describe any method or principle of TREATMENT which has proved successful in so large a number of cases of *cholera*, as to commend it to universal adoption? If so, has not the method frequently failed in other hands, and can you explain the cause of failure?

"13. What mode of *treating* the epidemic *diarrhœa* and premonitory symptoms generally have you found most successful?

"14. Can you suggest any means of preventing or arresting the spread of the disease in the event of any future outbreak?

"15. What is your opinion as to the propriety of removing the inhabitants who have not taken the disease, from the infected dwellings to houses of refuge, in situations where the presumed causes of the disease are not in operation?"

SOCIETY FOR THE ABOLITION OF BURIALS IN TOWNS.

At a recent meeting of this Society, the chairman presented a scheme for extramural burial, as regards the metropolis, which was read by the secretary. The measures recommended in this document were as follows:—"1. That a general system of extramural sepulture shall be forthwith organised throughout Great Britain. 2. That medical men be appointed to fill the ancient office of 'searcher,' and that no body be removed for interment without a certificate of death. 3. That the interment of the dead during the summer months within a period of — days be compulsory. 4. That for London, common land in the neighbourhood of railways should be appropriated for general cemeterial purposes, branch lines conveying the funeral trains into the ground itself, as proposed by Mr. Walker to the Select Committee on Interment in Towns in 1842. 5. That a central administration be appointed to undertake every service (except religious) connected with the burial of the dead at fixed and specified charges, which latter should not exceed certain *maxima* laid down therein. 6. That the duty of providing for the interment of the dead be exclusively confined to the aforesaid administration." The report was unanimously adopted, and the meeting directed that it should be printed and circulated.

KING'S COLLEGE HOSPITAL.

At a quarterly court of the Governors recently held, the Right Hon. Lord Radstock in the chair, the minutes of the former court having been confirmed, the secretary read the report for the past six months, which showed that between Lady-day (when 112 patients were in the house) and Michaelmas 664 applicants had been received into the wards, upwards of three-fourths being unprovided with letters of recommendation. Of this number 574 were discharged cured or relieved, 98 remained in the hospital, 80 died, and 20 were found incurable, or were discharged for irregularity. The out-patients during the half-year numbered 11,588, including 238 poor married women attended

during confinement. The total number of recorded cases since the opening of the charity amounted to 145,772, upwards of 11,400 being in-patients. It was reported that the funds for the last quarter had proved deficient by nearly £600, owing to the expenses incurred by the immediate admission and treatment of cholera and diarrhœa patients during the recent visitation. The Earl of Carlisle having been elected vice-president of the hospital, the resignation of the Duke of Sutherland from the office of president, on account of illness, was received; the resolution expressing the regret of the meeting, and also its gratitude for the liberality and support evinced by his Grace towards the hospital. Thanks having been voted to Lord Radstock (the chairman) the proceedings terminated.

PETITION OF MEDICAL PRACTITIONERS AT BIRMINGHAM IN REFERENCE TO ACCIDENTS ON RAILWAYS.

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled—

The humble petition of the undersigned physicians and surgeons of the borough of Birmingham and its district, sheweth—

That your petitioners have been informed, and believe, that in the afternoon of the eighth of February, one thousand eight hundred and forty-seven, Joseph Higgins, of Coleshill, labourer, was run over by one of the Midland Railway Company's carriages at the Whitacre junction station, distant about ten miles from Birmingham, through the negligence of the Company's servants, by which his legs were severely crushed; that from the nature of the injuries it was deemed necessary by Messrs. Davies, Bourne, and Barke, the surgeons in attendance, to hold a consultation on the case with some hospital surgeons.

That the attendance of Professor Sands Cox at midnight was requested.

That amputation above the knee was performed by Mr. Cox.

That the said Joseph Higgins recovered from the accident, and brought an action at law against the said Company for compensation; that the cause was entered for trial at Warwick, at the Summer Assizes for one thousand eight hundred and forty-seven, but the same was settled in Court without being tried, on the Company's counsel agreeing to pay the man one hundred and fifty pounds and his costs, and also to pay the medical and surgical charges.

That Professor Sands Cox charged the said Company twenty-one pounds (for the amputation and attendance), and three pounds three shillings each for two subsequent attendances; and in the spring of one thousand eight hundred and forty-eight, when a verdict was given for Mr. Cox for the whole amount of his bill, leave being given to move for a nonsuit on the ground that the Company were not liable, inasmuch as, being a corporation, they could only be bound by compacts under seal; and on the seventeenth of January last, Mr. Baron Parke gave judgment in the said action, and stated Her Majesty's Court of Exchequer were unanimously of opinion that no power to enter into any such contracts as those on which that action was brought was incidental to the employment of a guard or superintendent of a railway company; and that, being so, the Company was not liable in that action, and that therefore the rule must be made absolute to enter a nonsuit.

That the result of this trial shows that surgeons and medical men placed in a similar situation to Mr. Cox are without the means of obtaining payment for their services, as your Petitioners are advised that no action can be maintained against the man Higgins even if he had been in a situation to pay, because Mr. Cox was not employed by him.

Your Petitioners therefore humbly pray that your honourable House will be pleased to make a law whereby surgeons and medical men may have a legal right to recover against railway companies a fair remuneration for their services in cases of accidents on railroads; or that your honourable House will be pleased to make such other provision for your Petitioners on the premises as to your honourable House shall seem meet.

BEQUESTS TO MEDICAL CHARITIES.

The late Mr. Lewis Morris Cuthbert, of 7, Lyon Terrace, Maida Hill, by his last will and testament has bequeathed the following sums for benevolent purposes:—To the Consumption Hospital at Brompton, £3,000; Royal Free Hospital, £1,000; University College Hospital, £500; and Western General Dispensary, £100. Mr. Cuthbert held an appointment in the Court of Chancery as clerk to Master the Hon. Sir George Rose.

OBITUARY.

On the 30th ult., at his residence, in Brompton Crescent, Thomas Gunning, Esq., Inspector-General, Army Medical Department, aged 74.

On the 27th ult., at Longfleet, near Poole, Dorset, Robert Carruthers [illegible], M.D., surgeon, Royal Navy.

ON INFLAMMATION OF THE EYE FROM INJURY. BY DR. JACOB.

In treating of inflammation of the eye from injury, the fact that such inflammation sometimes extends to the other eye should not be forgotten. The disease so propagated should even perhaps be noticed as a distinct species, or variety at least, of ophthalmia or iritis, in consequence of its origin, nature, and progress; and it is so considered by Dr. Mackenzie, who calls it sympathetic ophthalmia, or *iritis sympathetica*. Whether or not it is to be attributed to what is called sympathy, or a certain participation in nervous influence, it is unnecessary to discuss here; all that is required for practical purposes is to establish the correctness of the view which assigns the one inflammation as the cause of the other. Of this it does not appear that there can be any rational doubt: every surgeon of experience could probably verify the inference by referring to his own practice; indeed, the consequence has so often been observed, that the wonder is its not taking place oftener, for fortunately it is not a frequent one. In treating severe injuries of the eye, and giving opinions and advice respecting them, it is therefore necessary to bear this in mind, in order that every measure adapted to the alleviation of inflammation and irritation should be adopted, and that the possibility at least of extension of the disease to the other eye should be pointed out to the patient.

This *sympathetic* inflammation is a general inflammation of the eyeball. There is the usual sclerotic vascularity, general haziness of the parts, alteration in colour of the iris, and defective sight at first; followed by still greater change of colour in the iris, amounting to a green or yellow tint, contraction, irregularity, and adhesion to the pupil, opacity of the lens and its capsule, and total loss of vision. How far this disease depends upon injury of some particular parts of the wounded eye does not appear to be settled. Dr. Mackenzie seems to think that it takes place most frequently when the ciliary ligament (*annulus albidus*) is injured, and that extensive lacerated wounds, including the iris, also provoke it. This is not improbable, considering the great number of nerves passing into these parts, and the great vascularity of the iris; but the observation, in fact, means that great injuries which necessarily involve the iris and choroid membrane are more frequently followed by this consequence than smaller ones in which the cornea or sclerotic only are wounded. Such great injuries are not, however, so often followed by this sympathetic ophthalmia as might be supposed from accounts given of particular cases; on the contrary, they so frequently occur without this result, that I am inclined to think it is to be attributed to some other cause than the mere wound or laceration. I believe that it arises more from constitutional diathesis than the local destruction; that it, in fact, takes place in consequence of the depletion, denial of food, confinement to the house or bed, and severe medical treatment resorted to for the original injury, and especially in subjects previously debilitated, or, as may be said, poisoned by tobacco, alcohol, and perhaps opium, habitually consumed, and living without properly cooked nutritious food, pure respiration, or regular bodily exercise. It has, I believe, been most frequently observed amongst besotted "operatives" and idle young men who abandon themselves to sensual enjoyments and an irregular life, as well as amongst young persons of either sex, badly fed, clothed, and lodged. Specific constitutional disease, especially scrofula and rheumatism, or even syphilis, are probably predisposing causes, and greatly influence the progress and consequences of the disease. This view is strengthened by the fact, that in all injuries of the eye, as well as in operations, the amount and effects of the inflammation are not at all in proportion to the extent of the injury or division of parts, but evidently depend upon some state of the system which cannot be detected at the time.

The sympathetic inflammation generally comes on in the uninjured eye in about a month or six weeks after the accident, and generally in cases where the injury in the other has been mismanaged or neglected, and where the consequent inflammation has not been subdued, or has returned after subsiding. It is usually of a destructive character, and accompanied by effusions, opacities, adhesions, and other disorganizations, causing discoloration and loss of contractile power in the iris, adhesions, and closure of the pupil, cataract, and amaurosis. The surgeon must, therefore, not only give a guarded prognosis respecting it when it does occur, but in all severe injuries of an eye, must warn the patient that such a result may follow disregard of proper precautions. It has been observed by Dr. Mackenzie, that this inflammation does not follow operations for cataract, and I have, I think, found it so, although I cannot say that such is always the case. This is, I believe, because the patient seldom throws off all restraint, or resists all control or treatment, as he often does when he finds that an eye is irreparably destroyed by accidental injury. Inflammation after the operation of extraction, or after the old and destructive operation in which the lens is broken up or depressed through the sclerotic coat, is always treated more or less carefully from its commencement, and thus is the danger of sympathetic inflammation of the other eye

diminished. This point is not unworthy of observation when it is recollected how often patients anxiously inquire whether any danger is to be apprehended to the other eye from an operation on the opposite one, and how necessary it is to qualify an assurance of safety in that respect by a warning as to the consequences of exposure to weather or irregularity as to food or habits. Although the prognosis in cases of sympathetic inflammation of the eye must be unfavourable, the surgeon should not despair of success if well-directed efforts to save the organ be steadily continued. It is also to be borne in mind respecting it, that notwithstanding its destructive effects on the iris and lens, the retina escapes destruction in its progress more frequently, perhaps, than in other inflammations of the eyeball, unless the disease causes total disorganization, with irregularity in form, of the entire globe. I operate for artificial pupil on eyes which have suffered from severe injury, or this sympathetic inflammation, with more confidence than upon those having the pupil closed by the other species of disease.

Treatment.—The treatment of sympathetic inflammation of the eye requires an accurate estimate of symptoms and remedies. There is no empirical or specific cure for it, but rather a judicious dietetic and medical correction of an unhealthy state of the nutritive function. Food of nutritious quality and easily digested should be given in moderation, and removal from the sick-chamber to a well ventilated room of uniform temperature should be enjoined, if the patient has been confined for some time to one apartment. Even change of air should be resorted to, and gentle exercise abroad, if the season permits. The medical treatment must depend very much on the previous treatment of the inflammation which followed the original injury of the other eye. Depletion by abstraction of blood will not probably be called for; purging, except in moderation and merely for the removal of accumulated intestinal contents, if any such there be, may be necessary; and correction of acidity of the stomach, as indicated by urinary deposit, should be effected. Mercury, if previously given to the extent of affecting the constitution, can scarcely be again administered with advantage, unless a considerable period has elapsed since its discontinuance; its character as a remedy in inflammation, however, stands so high that the practitioner can scarcely refrain from returning to it, should it appear probable that its influence has ceased to operate. If simple debility from interrupted nutrition and severe medical discipline suggest such a course, those preparations of cinchona or quinine best adapted to the stomach and system at large must be given; and if a scrofulous or rheumatic diathesis be present, suitable specific remedies must be adopted. Iodide of potassium should have a fair trial, either alone or in combination with bark, and even colchicum, should there be evidence of rheumatic or gouty constitution. Turpentine may also have a trial. Locally, belladonna smeared on the skin round the eye, and its effect maintained by a lotion containing the extract, may, with safety, and perhaps advantage, be applied; although during the inflammation, the iris may not yield to its influence. Blisters to the temples appear to be more efficacious in cases of this kind, where the inflammation is of slow and remitting character rather than active and unabating.

It seems to be suggested, although not perhaps unequivocally recommended, to cause total destruction of an injured eye, when sympathetic inflammation of the other eye ensues. No sufficient evidence is, however, on record of the value of such a violent proceeding, the arguments in favour of it appearing to be founded on the assumption that the removal of a foreign body lodged in an injured eye has prevented, if not arrested, the inflammation of the other; and upon the practice of farriers who, in the intermitting ophthalmia of horses, attempt to save one eye by the destruction of the other. That a foreign body lodged in an injured eye should be removed, even at the risk of producing the deformity which attends total shrinking of the eyeball, there can be no doubt: if it be visible, the cornea must be freely divided, as in the operation of extraction, and the curette or forceps boldly used; and if invisible, even the extirpation of the eye may be necessary. To "lay open" an eye with the view of causing its entire destruction by suppuration, because it continues in a state of irritation or even chronic inflammation, while the other eye suffers from sympathetic inflammation, does not seem to be justified either by theory or practice. Sympathetic inflammation does not appear to ensue from the amount of injury or inflammation of the wounded eye, but rather from a combination of local and constitutional causes, and often comes on after the mischief has ceased to operate: it is caused, it is true, by the injury and its consequences, but once set up, it is probable that it cannot be allayed by any such expedient as this. It is also to be recollected that opening the eyeball to cause suppuration and discharge of its contents, as sometimes must be done in cases of prominent staphyloma, is often followed by most formidable tumefaction and inflammation, involving the entire contents of the orbit; and continuing quite long enough to exasperate a sympathetic inflammation.—*Dublin Medical Press*, 1849.

CASE OF IDIOPATHIC TETANUS SUCCESSFULLY TREATED BY CHLOROFORM.

THE patient was a married female, aged 48 years, of a strong constitution, of the lymphatico-sanguine temperament, and who had always enjoyed good health. During the intensely cold weather she had been fifteen nights in attendance on an invalid. On the 28th November she was seized with a painful stiffness of the neck, jaws, and spine. She was bled from the arm, and counter-irritation was applied along the course of the spine. The symptoms not yielding, she was removed to the hospital at Belfort.

When admitted, she presented the peculiar tetanic aspect; the jaws were strongly closed, the head drawn backwards, the trunk bent backwards; the body, which rested on the occiput and on the toes, formed a curve. About every ten minutes the patient experienced a convulsive movement similar to an electric shock, during which the tetanic contractions increased in force. Her mind was clear, and she was aware of the danger of her condition. There was entire sleeplessness. The abdomen was tense. The appetite continued, but she could not swallow liquids. The evacuations were normal. The skin was moist. The pulse 96, soft. Acting upon the suggestion of M. Forget, chloroform vapour was exhibited at three o'clock on the 4th of December. Insensibility was produced in about two minutes and a half. In proportion as it was produced the rigidity of the trunk became relaxed, decubitus became natural, and she slept for forty-five minutes. She was awoke by a tetanic convulsion, but said she had enjoyed considerable ease.

At nine o'clock in the evening chloroform was again inhaled for about two minutes, and after this she slept for about forty minutes.

On the following day the tetanic symptoms continued unabated. Chloroform was inhaled twice during this day.

On the next day, Dec. 6th, the patient expressed herself as feeling better; but the rigidity remained the same as before. The inhalation was repeated. The bowels were relieved by an enema. In the evening the convulsions recurred. The patient swallowed a little broth. The second inhalation of chloroform gave rise to severe spasms, with dyspnœa, which, as well as the rigidity, ceased in about three minutes, and she then slept for half an hour. The pulse fell from 90 to 80.

Dec. 7th.—Has had some sleep during the night, but interrupted by tetanic convulsions. Insensibility not so readily produced by chloroform; the sleep lasted only eight minutes. The patient requested to be put to sleep again. The second inhalation was more effectual, and she slept for forty minutes. At four o'clock in the afternoon the inhalation of chloroform was repeated: forty-five minutes' sleep, full of dreams, was produced.

8th.—Has had some sleep during the night, and was less frequently disturbed by spasms, although they were more severe. Pulse 106. Three inhalations during the day.

9th.—Has passed a bad night. The bronchi and fauces obstructed by tenacious mucus. Is much weaker. Pulse 108, small. Chloroform was inhaled twice in the day. In the evening the patient felt herself much better.

10th.—Has passed a much better night than hitherto. Inhaled chloroform, which again produced forty-five minutes' sleep. Is improving. The convulsions are less frequent. She lies on the left side only; the muscles of the right side continue rigid (whence results pleurosthotonos); pulse 96. A second inhalation in the evening, followed by fifty minutes' sleep.

11th.—The improvement continues. Inhaled chloroform twice this day. Trismus is now the most persistent symptom.

13th.—A progressive improvement is manifest. During sleep the jaws were sufficiently separated to introduce a piece of cork. Inhaled chloroform twice. The cork could not be retained.

14th.—Is not quite so well. Two inhalations. Frictions along the spine with tinct. belladonnæ.

15th.—Is better. Complete relaxation of the muscles at intervals. Shocks less frequent.

16th to the 18th.—Continues to improve. During inhalation in the evening the pulse became very frequent, the respiration embarrassed, and it was necessary to suspend the process.

19th.—The limbs are relaxed; the jaws are tightly closed; the mucous secretion continues abundant. In the evening, coryza, difficult deglutition, respiration embarrassed; chloroform not inhaled.

20th.—Is a little better. The spasms for the last two days have returned every six hours (intermittent affections being generally prevalent at this time). To take sulphate of quinine. The inhalation of chloroform to be resumed.

On the following days the trismus continued so obstinately, that it was requisite to extract three teeth in order to administer nourishment. Inhalation of chloroform continued, a sponge being used instead of the apparatus.

26th.—Is mending satisfactorily, with the exception of trismus. Inhalation twice.

27th.—A severe attack of a nervous character, during which the jaws again tightly closed; they could previously have been separated to the extent of about an inch

and a half. She is more feeble. Chloroform inhaled once. To have soup, wine, &c.

Up to 1st January, 1849, she steadily improved, and at this date the chloroform was discontinued. The patient had quite recovered on the 20th January, fifty-three days after the commencement of the attack, during which chloroform was administered on twenty-six days.—*Bulletin de Thérapeutique*, Fevrier 28, 1849. χ

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Practical Remarks on the Predisposing Causes and Treatment of Asiatic Cholera. By F. J. Mosgrove, M.R.C.S.

Wochenschrift für die gesammte Heilkunde. Nos. 43 and 44; 27th Oct. and 3d Nov.

Comptes Rendus, Nos. 18 and 19; 29th Oct. and 5th Nov.

The Colchicum Remedy for Epidemic Cholera. By Joseph Bell, Newcastle-upon-Tyne.

Letter to the Lord Advocate of Scotland on Medical Reform. By J. Syme, F.R.S.E.

Edinburgh Monthly Journal of the Medical Sciences. Dec. 1849.

Pharmaceutical Journal. Dec. 1849.

The Diseases of Children. By Fleetwood Churchill, M.D. M.R.I.A. Dubl. 1849.

Report of the West Riding Pauper Lunatic Asylum.

Sanitary Economics; or, Our Medical Charities as they are and as they ought to be. By A. P. Stewart, M.D. &c.

British American Journal. Nov. 1849.

The New York Journal of Medicine. Nov. 1849.

*** We beg to inform the Editor, Dr. Purple, that a heavy rate of postage is charged for his journal. We shall feel obliged if he will make inquiry on the subject, and prevent this charge from falling on us in future.

Essays on Syphilis. Essay I. Syphilitic Sarcocele. By John Hamilton, Surgeon to the Richmond Hospital, Dublin.

London Journal of Medicine. Dec. 1849.

Annual Report of the Progress of Chemistry, by Liebig and Kopp. Part 3, 1847–8. Edited by A. W. Hoffmann, M.D. and W. Delarue.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·8
" " " Thermometer[a] ..... 34·5
Self-registering do.[b] ....Max. 49· Min. 15·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·6.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 5°.3 below the mean of the month (39°.8).

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 1.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	668	Males....	489	Males....	583
Females..	623	Females..	442	Females..	579
	1291		931		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	931	1162
Specified Causes	928	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	173	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	45	49
3. Brain, Spinal Marrow, Nerves, and Senses	118	125
4. Heart and Bloodvessels.....	34	40
5. Lungs and organs of Respiration	194	214
6. Stomach, Liver, &c.	50	65
7. Diseases of the Kidneys, &c.	8	11
8. Childbirth, Diseases of Uterus, &c.	12	10
9. Rheumatism, Diseases of Bones, Joints, &c.	8	8
10. Skin.....	0	1
11. Old Age	45	57
12. Sudden Deaths.....	5	12
13. Violence, Privation, Cold, &c....	14	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	5	Convulsions.....	38
Measles.....	26	Bronchitis	60
Scarlatina	37	Pneumonia	94
Hooping-cough	23	Phthisis 134	
Diarrhœa.....	17	Lungs	9
Cholera.....	1	Teething	8
Typhus.....	35	Stomach	4
Dropsy	20	Liver.....	10
Hydrocephalus	24		
Apoplexy	30	Childbirth	4
Paralysis	21	Uterus	6

REMARKS.—The total number of deaths was 231 *below* the weekly autumnal average. There was only one death from cholera.

NOTICES TO CORRESPONDENTS.

Mr. James George's communication will have early insertion.

The papers forwarded by Mr. Lonsdale and Dr. Nankivell will be published in the following number.

The Report of the South London Society next week.

Mr. J. Jones.—The fault is with the contributors referred to: they promise and do not perform; and, unfortunately, it is a case in which an action for "breach of promise" does not lie. We feel as indignant as our correspondent, but are without remedy, both in law and ethics, and therefore look for his forgiveness.

Dr. J. C. Hall.—A private answer will be sent shortly. The period referred to for publication will suit very well.

We regret that, owing to its length, we are obliged to postpone the paper of Mr. Smith, of Belper, until next week.

Dr. J. W. Griffith.—The number was over-filled when the article reached us. It shall be inserted next week.

Mr. R. H. Meade.—We shall have great pleasure in inserting the "Clinical Observations" as soon as our other arrangements will permit.

Dr. Charles Cotton's case will be inserted very shortly.

CORRIGENDA.—In Dr. Nankivell's paper on Cholera, page 756, end of 1st paragraph, for "steady," read "speedy."—End of 2d paragraph, for "urine," read "urea."

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Jane Edwards, æt. 58, admitted under Dr. Taylor, May 15, 1845.

Case.—*Albuminuria—ascites—anasarca—incipient cirrhosis of liver—gangrena senilis—morbus cordis—hydrothorax—pneumonia — emphysema — pulmonary apoplexy.*

Short of stature; stout conformation; scrofulo-nervous temperament. Complexion fair; blue eyes; grey hair. Has kept an open oyster shop for the last thirty-seven years. Is married, and has had thirteen children and four miscarriages. Generally takes Oss. porter with each meal. Occasionally gin and water. This, as was afterwards found, she drank to excess. Occasionally a glass of brandy. She herself, however, denies ever having been tipsy. Her food is usually a little meat or fish. She sups at night at very irregular hours; sometimes as early as nine o'clock, sometimes as late as one o'clock. Always warmly dressed; indeed, sometimes too much so. Sleeps well in health. She states her disposition is cheerful. Her relations, however, say she is very bad-tempered and discontented.

Resides at present at No. 11, Little Charles Street, where she has lived for the last seven years, where she keeps an open shop. Before this she kept a shop in Bethnal Green for twenty years. Has lived in London forty-three years.

Hereditary predisposition.—Her parents died at a very advanced age. Of three sisters, one died of phthisis, at seventeen. Of nine brothers, two died of phthisis, at twenty-seven and twenty-nine years old respectively. Another sister had a severe cough with hæmoptysis, at nineteen. Two of her children died of decline, with convulsions.

Habitual state of health.—She herself has been moderately healthy. She is liable to nervous attacks. Had small-pox and the measles when a child: after the latter she suffered from sore eyes for a long time, and a speck formed upon one of them. *Never had scarlatina.* For a long time back she has been troubled with cough and dyspnœa. Has frequently had epistaxis and hæmoptysis. She has sometimes expectorated as much as a teaspoonful at a time of a florid red colour. She has suffered much from palpitation, and especially diarrhœas whenever she caught cold. She first noticed palpitation during an attack of rheumatism she had when ten years old, from which time it has never left her. Since this period she has had repeated attacks of rheumatism. Thirty years ago, after the birth of her second child, procidentia uteri came on. She was prevailed upon, about four years ago, to wear a pessary, which she kept in for thirteen months, when it was extracted by a dispensary accoucheur by means of two table-spoons!

On the 14th August, 1844, she was admitted a patient in this hospital under Dr. Taylor, for dropsy. The attack had been ushered in with pains in the loins; rigors succeeded by heat: urine scanty and high coloured. The day following she perceived her feet and legs were much swollen, and towards night the swelling had extended to the top of the thighs. She was compelled to take to her bed. On the 9th the abdomen became greatly enlarged. There was much nausea, fever, and thirst. No cause, as exposure to cold, could be traced for this. She had had a very severe fright a month prior to it, and a few days before the occurrence of the anasarca a quarrel with one of her lodgers, which much disconcerted her. On her admission, on the 14th, the clinical report states that her skin was pale, but natural in other respects. The abdomen much enlarged, with œdema of its walls, forming a hard mass to the right side, on which she had laid. The fluctuation of the abdomen was obscure, and she complained of pain in the epigastrium, also very tender on pressure. The liver extended about an inch below the margin of the ribs. Legs, thighs, and face, also œdematous. There was dulness in the lower part of the chest behind, on both sides. Slight mucous ronchus in the upper part of the left side in front, behind, on both sides. Both sides of the chest were resonant in front, especially the left. Respiration on the left side was puerile in front and below. On the right side it was loud, but not so distinctly puerile. There was no increase of cardiac dulness. There was a loud murmur at the apex (?) with the first sound. Impulse somewhat extended, but not very strong. Pulse 100. The head felt heavy, and she was restless. There was also cough. The urine was very albuminous. The pain at the epigastrium being very severe, ten leeches were applied. The next day a blister was applied to the same part. She had passed about Oij. of water in the twenty-four hours. Pulse was quick, 108. The expectoration was diminished. Respiration easy. She felt on the whole much better. Ordered—Acet. Potass., Tinct. Scillæ, Tinct. Digitalis, Sp. Nit., aa. ℥ss.; Inf. Juniperi, ℥j. ter die.

From this time she continued to improve, the urine having a specific gravity of 1012, gradually increasing to Ov. in the

twenty-four hours, and ceasing to be albuminous. On the 30th she was discharged apparently cured.

During her stay in the hospital a circular pessary was applied, but she was unable to bear it. She has since always worn a truss and sponge. The pain in the loins has continued ever since, and the hæmoptysis has recurred occasionally. Has been losing flesh for the last six or seven years. With these exceptions, and a feeling of general debility, she has been pretty well in health up to five weeks ago.

Present attack.—Five weeks ago she caught cold, being attacked with a troublesome cough. From her description the expectoration appears to have been *rusty*, with occasional *hæmoptysis* and *epistaxis*. She took linseed tea and gruel for it, and apparently recovered. About three weeks ago she was again seized with rigors, headache, nausea, and vomiting. There was also pain in the loins, but not more severe than usual. Subsequently she observed her legs and abdomen began to swell. The face, however, did not swell till after her admission. On the 9th, the little toe of her right leg became very painful, occasionally the paroxysm lasting for ten minutes or so at a time, and then disappearing. She had never felt any pain in it before.

Present state.—Occasional rigors, followed by unusual warmth all over the body. The skin sometimes itches severely, but there is no actual soreness. There are no general pains. She is very weak and nervous. There is a general feeling of lassitude and restlessness, especially at night. Colour of skin natural. Temperature in axilla 95° F. No eruption. She does not look thin, but she says she is a great deal thinner than formerly. Decubitus dorsal. Her intellect is clear; no lightheadedness. Scarcely sleeps more than two hours every night. Occasional headache. Often very giddy; but she is not more so when she stoops. Lips rather pale and livid. Expression of countenance anxious. Cheeks are pale, sallow, and swelled. Hearing and smell unaffected. Her eyesight is somewhat dim. The taste is impaired, especially when she is constipated. There is a slight purple discolouration over the last joint of the little toe, like that of gangrena senilis. Its sensibility is evidently diminished, though she feels distinctly the prick of a pin in it. It sometimes feels hot, sometimes cold. Sometimes she experiences in it most acute pain. The legs are also œdematous, and the veins on the anterior surface varicose. There is some weakness about the spine. The right loin is painful on touch, and pressure on it makes her feel quite sick and faint.

Thoracic organs.—Her respiration at present appears to be easy, twenty in a minute. There is no pain in the chest, except when she coughs, and then it is more a feeling of rawness than of actual pain, over the middle one-third of the sternum. The cough, which is of a hacking and continuous kind, is very troublesome. Voice somewhat hoarse. Expectoration copious, about Oj. in the twenty-four hours, consisting of frothy and watery mucus. There is dulness under the right clavicle, and less respiration is heard under the left than the right. The lower one-third of the back is very clear on percussion. Middle one-third less so. The right supra-spinous fossa is distinctly duller than the left. Respiration is feebler than it should be on both sides behind, but more so in the lower part of the right side. It is somewhat bronchial in the upper part of the same side behind. The intercostal depressions are not well seen on either side. There is some mucous ronchus heard generally over the chest. There is a murmur heard loudest at the apex, with the systole; not heard in the neck. Occasional palpitation, especially on exertion. Jugular veins rather full. Pulse 108, very small and irregular. Impulse of heart increased.

Complains of having a bad taste in her mouth. Tongue clean. Appetite pretty good. Not very thirsty. Occasionally nausea; no vomiting.

Abdominal organs.—The abdomen is prominent and tender on pressure, with œdema of its depending walls. No fluctuation could be detected. The two iliac and hypogastric regions were dull on percussion, but the seat of dulness did not move with change of position. The liver does not reach higher than the body of the sixth rib. Inferiorly the left lobe does not reach below the lower end of the sternum; but from this point to the external part of the right side it reaches as low as the umbilicus. Bowels are rather constipated. Her urine is scanty, high coloured; deposits a large quantity of pinkish lithates; specific gravity 1029, very acid; albuminous to one-sixth the quantity tested; no excess of phosphates, but some relative excess of urea.

The catamenia first appeared at thirteen. She was regular from that period every three weeks or a month, sometimes as often as every fortnight. The catamenia usually remained upon her about a week, but it was scanty in quantity. Has been generally very liable to leucorrhœa, especially after her confinements. At present it is very trifling. The womb is prolapsed, as also a portion of the bladder. When the womb is down she cannot make water, sometimes being obliged to force a good deal for as long as half an hour before she can pass any.

Supposed exciting cause.—She did not get wet prior to the present attack, that she is aware of. Lately she has set up very late, as she keeps a lodging-house for single men; and this has fatigued her much. She has

also for some time back been much distressed in mind owing to some pecuniary difficulties. She has always been very careful not to catch cold, frequently going to bed dressed, so as when called upon to get up to open the doors she might run no risk. She is therefore quite unable to explain how she caught the violent cough and cold in the first place. Three days prior to the occurrence of the dropsy, one of her lodgers having returned home very late, she kept him waiting some time at the door till she dressed herself. On his admission he spoke to her very harshly, and she was much alarmed. It was three days subsequently to this occurrence that she noticed the dropsy. The exact dates could not be ascertained.

May 16th.—Slept very indifferently last night. The right little toe has continued to be very painful at intervals, making her quite sick. The discolouration is still present, but has not extended. The toes and legs sometimes feel benumbed, at other times hot or cold. To the feel there is scarcely any difference in the temperature of both feet. There is more pain on pressing the right than the left leg. The veins of the leg are in no way affected. The pulse can be felt slightly in the femoral artery as it passes under Poupart's ligature, but neither in the popliteal or anterior tibial. Legs still œdematous. Hands rather livid. Cough and expectoration much the same. In the latter, however, there are some ragged, more opaque portions, and streaks of florid red blood. Bowels opened once last night. Has made about Oj. of urine in the twenty-four hours, sp. gr. 1026, albuminous, &c. As before.—℞ Decoct. Cinchonæ, ℥ij.; Tr. Cinchonæ, ʒj.; Tr. Opii, ♏x.; Ammon. Carb. gr. iv. 6ta. quaque h. s. Middle diet: beef-tea, Oss. The toe to be poulticed three times a day.

N.B. Daily reports of this case were taken, but as she remained nearly three months in the hospital, they have been curtailed. To avoid repetition the appearances of the urine will be given in the end in a tabular form.

17th to 22d.—The temperature of the right and left little toes was found on the 17th to differ by half a degree; but the experiment was only made a quarter of an hour after the removal of the poultice. The gangrene in the right little toe had extended slightly on the 19th, but not since. On the 18th there was some slight discolouration of the middle toe of the left foot, with severe pain in the great toe, and occasional numbness of the right toe. The gangrenous toe has continued to be very painful by paroysms, which are so severe as to make her feel quite sick. The calves of both legs have been generally less painful, and the œdema is also diminished. The walls of the abdomen are not œdematous. The physical signs of the chest continue as before. The urine on the 21st presented some peculiarities; sp. gr. 1027, acid, and only a trace of albumen. At the bottom, however, of the specimen examined there was a copious precipitate, which at first sight appeared to be lithates. On closer inspection, however, it was found to be grumous, thick, and sticky; and when spread out could be drawn out in threads with some elasticity. The colour was of a dirty pink. The greater part of this precipitate was soluble in liquor potassæ; what remained behind being white, like mucus. It was also quite soluble in ammonia and nitric acid. Under the microscope it exhibited an immense number of pinkish and yellow epithelium scales, some tubes, three of which were united together, and amorphous lithates. In health she appears better. The pulse is stronger, 100. Appetite indifferent. The poultices to the toe have been changed three times a day. On the 17th she was ordered ℥ij. of gin. On the 19th the beef-tea was increased to Oj. On the 21st she was ordered ℥ss. of Bitart. of Potash in water every day. The bowels have not been very open, in consequence of which, on the 22d, she took a dose of castor oil.

23d to June 7th.—The temperature of the affected toes, as compared with the opposite side, has since been taken.

	RIGHT FOOT.—FAHR.				LEFT FOOT.—FAHR.			
	May 23.	May 24.	May 31.	June 7.	May 23.	May 24.	May 31.	June 7.
Little toe	75°	—	—	76°	65°	—	—	86°
Ditto (outside)	—	75°	77°	—	—	70°	79°	—
Ditto (inside)	77°	81°	80°	—	73°	76°	82°	—
Great toe	—	—	—	79°	—	—	—	80°
Ditto (outside)	—	83°	78°	—	—	78°	72°	—
Ditto (inside)	—	80°	77°	—	—	76°	74°	—
Middle toe	—	80°	80°	80°	—	80°	80°	80°
Calves of legs								

On the 24th May, the pain in the right little toe was so severe, she was unable to sleep at night for it, and it continued during the day in paroxysms. There was also occasional pain in the toes of the left leg: in the middle toe of this foot the pain was not so severe as in the great toe. On the 26th, the cuticle at the extremity of the right little toe had separated, and there was a superficial slough about the size of a small pea, black in colour, adherent to its extremity, at one side of which there was a small quantity of pus, with the distinct gangrenous odour. There was also some pain, but upon the whole it was less violent. On the 27th the toe was more discoloured, and the pain more burning in character. The whole foot felt altogether hotter. On the 30th the slough was visibly separating. Around it was a white line, and immediately around this last a depressed red line, evidently that of demarcation. There was still slight discolouration in the middle toe of the left foot, but it was not more vivid or extensive than before. The pain in the right little toe had continued much the same, and there was also some severe pain occasionally in the right great toe, of a burning character. On the 2d of June the line of demarcation about the toe was much more evident, and the wound discharging freely. She was ordered to take the cream of tartar daily. On the 4th she had been violently purged, and was much weaker. The toes were generally livid, and about one-third of the dorsum of the right foot. The left toes were also more livid, and felt generally cold. The paroxysms of pain continued sometimes more, sometimes less severe. Both legs and hands were more livid than they had been; but, excepting at the slough, the sensibility was not impaired. The line of demarcation was less evident, and the discharge had diminished. On the 6th there was still pain in paroxysms, but it was less frequent. In the left leg there was no pain. The discolouration in the right little toe had distinctly extended. The line of demarcation was not to be made out. There was some pain of a rheumatic character around the right ankle. On the 7th there was very little pain in the toe. It was less livid, and the gangrenous part was again becoming circumscribed.

The cough has varied, being sometimes more, sometimes less troublesome. On the 24th the expectoration was rather discoloured, but not rusty; on the 25th, intermixed with streaks of blood; on the 30th it was transparent and frothy; on the 2d June it was pure mucus, streaked occasionally with blood—ʒij. in the twenty-four hours. On the 5th the cough was again more troublesome; expectoration more frothy, and increased in quantity. The pulse had varied from 112 to 120, sometimes irregular, always weak and compressible. There had been occasional palpitations; also more or less dyspnœa, coming on in fits, especially when there was any smoke in the ward. On the 4th of June, slight regurgitation was observed in the right jugular vein. The physical signs have generally been more or less mucous ronchus, heard over the whole chest. The mitral murmur in no way diminished. On the 6th of June, on percussion, the right side was still duller than the left, and the vocal vibrations generally were felt superiorly on the right side stronger. Inferiorly both sides were dull, and the dulness extended on the right side from about half an inch below the lower angle of the scapula downwards. Towards this angle the respiration was bronchial. The vocal vibrations were scarcely felt inferiorly on either side: of the two, they were felt best on the left side.

Her sleep has generally been disturbed, in consequence of the pain in her toe, and occasionally the cough. On the 2d, however, she slept well, and *sweated profusely during the night.* On the 26th May she complained of some abdominal tenderness, increased on hard pressure. Superficial percussion of the abdominal walls, which were not œdematous, yielded a dull sound: at the depth of one inch it was tympanitic. This was particularly the case in the most dependent parts. Change of position likewise altered the seat of dulness. The legs were still slightly œdematous, but less than before. On the 31st these symptoms were slightly increased, and fluctuation in the dependent part was more evident. On the 5th the fluctuation was not to be made out. There has been more or less headache, loss of appetite, &c. She has suffered much from a pain at the epigastrium, and griping at the navel, at once induced by coughing. There has been more or less pain across the loins: pressure upon the kidneys makes her feel quite sick. The urine has been acid, with a specific gravity varying from 1005 to 1025, albuminous from one-eighth to one-third the quantity tested. The microscopical characters as before. On the 6th the large organic globules or pus were found, with oxalate of lime and triple phosphate. The treatment has not varied much. On the 2d June it was found that the patient had taken the bitartrate of potash only occasionally: it was then ordered to be taken daily. On the 4th, owing to her state of weakness, it was omitted. She was ordered full diet on the 26th May, and ʒiv. of wine instead of the gin. On the 6th, fish on alternate days, and ʒvj. of wine.

June 8th to 14th.—On the 9th the affected toe was bandaged up in cotton wool, since which period the slough is separating,

though slowly. There is not nearly so much pain it as before, and what there is is confined to the affected part, not shooting up as before in the leg. No pulsation can be detected in the popliteal or anterior tibial arteries. The cough has continued occasionally troublesome. The expectoration varied from ℥ss. to ℥j. in the twenty four hours, sometimes frothy, sometimes with more opaque portions in it streaked with blood. On the 12th, percussion of the upper part of the left side was thought to yield a duller soond than before, and some *moderately fine crepitation* was heard about the union of its middle and upper third. Superiorly the expiration was too loud. This moderately fine crepitation was large on the 13th, on the 14th the expectoration was more decidedly rusty in character. The mitral murmur on the 14th was scarcely so loud as before. The cardiac dulness reached as high as the fourth rib ; transversely from the right border of the sternum, two and a half to three inches. Palpitations were frequent. Pulse from 112 to 120, weak, occasionally irregular. On the 14th the anasarca was on the increase, the face looking decidedly more swollen and sallow than before. There was slso slight fluctuation, but quite superficial in the right iliac fossa. The liver reached as high as the sixth rib, as low as the umbilicus. The appetite has continued bad. Tongue rather congested. Has had but little sleep. Bowels on the 14th were violently purged, six or eight times. The urine has been acid, sp. gr. 2019 to 1020, with a trace only of albumen ; under the microscope exhibiting tubes and crystals of triple phosphate. On the 13th she was ordered to have ℥iv. of wine and ℥ij. of gin, in room of the ℥vj. of wine, daily, and on the 14th ℈j. of the compound kino powder ; to be repeated if the purging persisted.

June 23d.—The slough on the toe, which is now no longer painful, separated on the 18th, since which period the wound has contracted, but the granulations are scanty and pale, and discharging sanious pus. The anasarca is much the same; if anything, rather on the increase, the leg measuring thirteen inches and a half below the knee, instead of thirteen, as before. The walls of the abdomen are slightly œdematous, with obscure fluctuation in the most dependent parts. The liver was felt on the inner side to be slightly irregular; extent as before. She complains chiefly of epigastric pain ; but opposite this part the abdomen is tympanitic. The appetite is in no way improved. Her food lies heavy on her stomach. To-day the cough is not so bad. The expectoration is not tinged with blood. The dulness on percussion is still greatest posteriorly and superiorly on the right side. Below the scapula, and to the outer side, the respiration is bronchial: it is also bronchial in front, below the right clavicle, where percussion yields a duller sound ; the right axilla is also dull on percussion, and the respiration below the third rib is also bronchial in this situation. Anteriorly below the third rib the dulness is more marked than superiorly, and respiration is slightly bronchial. There is dulness also in the left axilla, and at its upper border, slightly extending anteriorly just below the insertion of the pectoralis minor ; the respiration is slightly bronchial also. The right half of the thorax is by actual measurement a quarter of an inch larger than the left side. Bowels regular. The urine has been alkaline since the 18th ; in other respects as before, sp. gr. from 1019 to 1025.

25th.—The cough is a great deal better. A portion of the expectoration is gelatinous and transparent, and a portion more opaque, like smoky sputa. Physical signs as before. Anasarca is still slightly on the increase. Skin cool, and the extremities feel cold. She does not perspire at all at night or during day. The expression of the countenance is very anxious : face swelled and sallow ; lips somewhat livid ; pupils of the natural size ; some intolerance of light ; conjunctivæ yellower than before : occasional headache. She complains still of pain in the epigastrium ; but when her attention is turned away, she does not evince pain in it on hard pressure. She states it is not constant and sharp in character when it occurs. She slept very badly last night, groaning and sighing a good deal. Tongue morbidly red. She says she does not make more than Oss. of urine in the twenty-four hours.

27th.—Since last report she has not improved. The anasarca over the trunk continues, and seems to be increasing. She feels very weak and restless, especially at night. She had several rigors during the night, but no hot fit succeeded. There are no general pains. The countenance is very sallow; expression anxious ; lips livid ; pupils equally dilated; no headache or giddiness. The night-nurse says she groaned, and appeared to be suffering a good deal during the night, and once or twice seemed to be delirious. There is some discolouration of the hands not before noticed. The action of the heart is much quickened. Occasionally (once or twice) *a slight friction sound was heard at the base.* As her breathing was, however, very humid, 56 in a minute, and she could not hold her breath properly, the nature of this sound could not be accurately made out. Pulse 120, very weak. The respiration is more costal than diaphragmatic, and the right side moves quite as much as the left. On percussion,

the right side in front is still distinctly duller superiorly than lower down; but below the fourth rib the dulness inferiorly is greater than superiorly. Behind, the lower part of the right side is quite dull, from a little above the angle of the scapula downwards, where also, all over, the respiration is strongly bronchial. The vocal vibrations are felt in the upper half of both sides, but not in the lower; the seat of dulness most inferiorly changing with change of position. The toe was more painful this morning, but is not so now. The discolouration is evidently extending. Appetite bad; much thirst. She is sick, and yesterday vomited a fluid just like water; reaction acid, but not to-day. Bowels open three times to-day. She still complains of pain in the epigastrium, but on turning away her attention she does not complain of hard pressure upon it. This pain, she states, has been worse since the 26th, when she was frightened by the admission of an epileptic patient.

30th.—Since last report there has been some amelioration in the symptoms; the respiration being less hurried, (36 in a minute, on the 28th,) and she no longer speaks by starts. To-day the anasarca is not diminished. Has had several rigors, followed by hot fits, during the night and morning. She has sweated the last three nights a little. The expression of the countenance is less anxious than it was. Cheeks less sallow, and the lips of the natural colour. There was slight headache and giddiness last night, not to-day. Sleep is rather disturbed still. The spirits are better, but she is very drowsy during the day. She complains of a good deal of pain across the loins. Her cough is a good deal better, and there is no pain in the chest. Expectoration consists of semi-opaque tenacious mucus, with carbonaceous matters and blood intermixed. Respiration is very weak over the right back, scarcely heard superiorly, and there is some mucous ronchus on the left side. In other respects as before. Pulse 120, still weak. The toe is not so painful, nor is the discolouration extending. There is some pain in the left knee. *Slight regurgitation of the jugular veins of both sides.* ℥iss. of urine was saved, sp. gr. 1021, alkaline, of a dirty brown colour, with precipitate; rendered turbid, not grumous, on the addition of liq. potassæ; still albuminous. Under the microscope it exhibited blood-globules.

July 2d.—Anasarca has rather increased. The toe is somewhat less livid than yesterday, but more so than it was. There is but little pain in it: the wound is not healing; there is a scanty sanious discharge from it. The right leg, from the knee downwards, feels perfectly cold to the hand. She herself complains of cold, and has had frequent rigors. The face looks very sallow, but the lips are scarcely as livid as yesterday. The hands are more puffy and swelled than they were. No headache; occasional giddiness. There is a sore over the sacrum, so that she cannot lie upon her back without much pain. Last night she slept very badly; she could not keep the recumbent position, as it brought on pain in the chest, and a sensation as if she would be choked. She sits to-day in a semi-erect position supported on pillows. Pulse 124, very weak. Cough is better, and there is scarcely any expectoration; yesterday there was more: it was bloody, and, under the microscope, was found to consist of broken-up blood-globules and larger globules with large nucleoli in their interior. The respirations are rather quickened. The right back is generally duller than left; but the difference is chiefly marked inferiorly. In the lower half the respiration is strongly bronchial. Quite low down, the *bronchial breathing is distinctly metallic*, intermixed with large crepitation. The dulness changes its seat with the change of the patient's position. In front the respiration is also strongly bronchial in the lower half, with the same physical signs as in front. Vocal vibrations are not felt below. Superiorly they are stronger in the right than the left side, excepting in the left axilla, where the respiration is also bronchial, and the vocal vibrations as strong as superiorly There is more dyspnœa when she lies on the left side.—℞ Omitte Mist. ℞ Decoct. Cinchonæ, ℥iss.; Potass. Carb. gr. x.; Potass. Acetatis, ℈j.; Potass. Nitratis, gr. viij.; Cinnamon. Carb. gr. iv. 6ta. quaque h. s.

4th.—Since last report there is no improvement. It was discovered yesterday that her friends brought her gin, as after their departure she became delirious. When closely questioned she admitted the fact. The toe is distinctly more livid, and the whole right leg feels quite cold to the hand. She, on the contrary, however, states they feel quite warm. The sensibility in this leg is decidedly less than that of opposite limb. Anasarca not increased. She is very much discontented, and refuses to take her medicine, which she states burns her a good deal. Does not sleep at night; whole body and limbs feeling very sore. She coughs less. Pulse 104, much weaker. Sputa diminished in quantity: it still consists of a gelatinous-looking mess of a pinkish tinge, with carbonaceous matter intermixed. Urine scanty and turbid, still with a trace of albumen. ℞ Omitt. Pot. Carb. in Mist.

5th.—The toe is distinctly more livid. The feet are cold, especially the right, in which the sensibility is impaired. Face looks much more sallow, and expression of countenance very anxious. Lips more livid.

Did not sweat last night; complains of very severe lancinating pain beneath the left breast and up the shoulder. The medicine continues to burn her when she drinks it. No headache or giddiness. She slept better last night. The anasarca and orthopnœa continue. The walls of the chest are still œdematous. Superiorly there is not that difference on both sides on percussion that there was. The respiration is bronchial on both sides. In other respects as before. Over the surface of the chest generally there are several spots of purpura, varying from the size of a pea to that of a filbert. The colour does not disappear on pressure. The expectoration is more abundant and discoloured. Respirations thirty-six in a minute. Pulse 116; very much weaker; cardial murmur not so bad. Tongue furred at the edge, and morbidly red in the centre. Yesterday at the visit her husband was detected bringing her ℥iv. of gin.

6th.—At about nine A.M. she became much worse. The dyspnœa had become more urgent, the hands and feet being cold. She complained of pain in the lower part of the left side, in front, and of feeling very faint. Mucous ronchi were heard all over the chest. Pulse very small, and scarcely perceptible on the left side, but regular. She was ordered brandy and water, a sinapism to the chest, and warm water to the feet.

Eleven, P.M.—Dyspnœa increasing, as also the lividity. Pulse still weaker and frequent, but regular. She is covered with cold, clammy sweats. ℞ Sp. Eth. Sulph. Sp. Ammon. Arom. aa. ℥ss.; Mist. simpl. ℥j. o. h. si opus sit. Died July 7, at three o'clock A.M.

[To be continued.]

DEATH FROM CHLOROFORM AT SHREWSBURY.

On Wednesday evening an inquest was held at Shrewsbury, upon the body of a poor Welsh girl named Jones, from the neighbourhood of the Craven Arms, between Church Stretton and Ludlow, who died on the same day. It appeared that it was necessary for her to undergo a very painful operation,—that of the removal of the eyeball; and, with her own full consent, Mr. W. J. Clement, the surgeon under whose care she was, administered about one-third of the quantity which he has given other patients. It had, however, such an effect upon her that she was seized with apoplexy, and speaking in Welsh at the time, expired instantaneously, as if she had swallowed prussic acid. The jury returned a verdict of "Died by apoplexy, caused by inhaling one drachm of chloroform."—*Hereford Journal.*

*** The particulars of this case should be forwarded to one of the medical journals for publication.

Original Communications.

PRACTICAL OBSERVATIONS ON THE TREATMENT OF INSANITY.

By William Smith,

Formerly Resident Surgeon in the Lincoln Lunatic Asylum, and subsequently in the General Hospital at Lincoln.

[Continued from p. 849.]

On Hereditary Predisposition to Insanity.

Before proceeding further with the treatment of mental derangement, I deem it advisable to place before my readers such an amount of information (from the most authentic sources) relative to the hereditary predisposition to insanity, as may tend to elucidate some of the more intricate phenomena of the disorder; and as insanity and scrofula, according to the best authorities, are most intimately united (frequently occurring in the same individual), and even alternate with each other, I shall offer a few remarks upon the connection between the two disorders: my object, in fact, in all these observations upon mental disorders, being to prove that mental derangement cannot, in a scientific and philosophical point of view, be legitimately separated from diseases affecting other organs of the human body; and that the practice of viewing insanity as a disease *sui generis*, in professed treatises on the subject, and thus rendering it a *sealed subject* to the mass of general practitioners in medicine, has been decidedly injurious to the welfare of lunatics; and has retarded the progress of sound psychological medicine. The first author to whose writings I shall refer, as being most judicious and trustworthy, is Dr. George Mann Burrows, whose fourth commentary contains some admirable remarks on "Hereditary Predisposition." He says—"Every disease that assumes a constitutional character can, John Hunter said, be given to a child; and then it becomes what is called hereditary. There is, however, he adds, no such thing as an hereditary disease, but there is an hereditary disposition for a disease.

"The doctrine of constitutional pre-

dispositions to specific diseases being propagated is not new; and we have, in the instance of syphilis, a disease propagating itself. Why insanity should have been supposed to be exempt from this general law of nature, it is difficult to conceive, except on the mystic ground of its immaterial origin.

"The liability of mania, demency, epilepsy, leprosy, &c., to extend through future generations, is an opinion confirmed by the experience of all ages.

"It is of little real importance whether it be a predisposition or the malady itself which descends and becomes hereditary; but no fact is more incontrovertibly established than that insanity is susceptible of being propagated; or, in other words, that a specific morbid condition sometimes exists in the human constitution, which by inter-marriage, or, according to the vulgar but expressive language of cattle breeders, by breeding *in and in*, may be perpetuated *ad infinitum*.

"Hereditary predisposition, therefore, is a prominent cause of derangement.

"Sometimes in a large family we find all the forms and relations of insanity developed in a remarkable manner. Mania, melancholia, hypochondriasis, apoplexy, paralysis, epilepsy, convulsions, chorea, hysteria, &c., or high nervous irritability, are often found to pervade one or other of the same progeny. Nay, even the degrees of comparison are marked in the capacities of some families. This I have seen exemplified in a respectable family: one son has transcendant talents, the second is inferior, the third has been for years in a state of fatuity, and the fourth is an idiot."

During my official connection with the Lincoln Lunatic Asylum, a respectable tradesman in easy circumstances, from G., came over to see his son, G. W., a patient in the asylum. He was accompanied by his daughter, an interesting looking but delicate female, of more than twenty years of age, respecting whom he requested my professional opinion. It appeared from the history of her case, and the examination which I subsequently made, that she was suffering from pulmonary consumption, from which disease he had previously lost one or two other daughters; and to add to the poor man's cup of affliction, *all his sons* had shown symptoms of mental derangement: the one under my care was deemed by all the physicians and myself an *incurable* lunatic, though only twenty-six years of age; and another brother, who had been confined for a short time in the Leicester Asylum, and discharged as apparently recovered, shortly after his arrival at home committed suicide by cutting his throat in the water-closet.

From the results of my own observation and experience, I am led to the conclusion that mental derangement is more intimately connected with the *scrofulous diathesis* than many persons are aware. May not this circumstance in great measure account for the *great intolerance of bloodletting, and other lowering remedies, which we find in insanity;* and likewise satisfactorily account for the decided improvement which follows the exhibition of a sound nutritious diet, regular exercise, and a plentiful allowance of pure air? And what do we daily observe in cases of scrofula, where the constitution is *thoroughly saturated* with the *materies morbi of struma?* Why, so long as the disease has a *vent externally*, as by *suppuration at the glands of the neck, an expectoration of tuberculous matter from the lungs, or a discharge from a diseased joint*, provided the patient be kept well, and not confined entirely to the house, things go on moderately well; but lop off the joint, or suddenly stop up the drain from the system, and all things go wrong: there may be a deceitful calm for a while, but the enemy will soon show himself elsewhere. I see no advantage in removing scrofulous limbs, unless hectic fever and marasmus are undermining the vital powers, and then of two evils the practitioner must choose the least.

Scrofula, and all its frightful concomitants, are nowhere seen more openly and unmistakeably than amongst the operatives of our large *cotton factories;* I never see the hands turning out for dinner, jaded in appearance, and stunted in growth, without calling to mind the forcible but truthful lines of Goldsmith—

"Ill fares the land, to hast'ning ills a prey,
Where wealth accumulates, and men decay;
Princes and lords may flourish or may fade,
A breath can make them, as a breath has made;
But a bold peasantry, their country's pride,
When once destroy'd can never be supplied."

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"But times are alter'd; trade's unfeeling train
Usurp the land, and dispossess the swain:
Along the lawn, where scatter'd hamlets rose,
Unwieldy wealth and cumbrous pomp repose;
And ev'ry want to luxury ally'd,
And ev'ry pang that folly pays to pride."

But to return to insanity. Dr. Burrows speaks of the great difficulty he experienced in obtaining from relatives any information relative to this hereditary predisposition: the same difficulty has occurred to myself, and probably to every one who has (like myself) made mental derangement his peculiar study. Insanity, most unfortunately for those who suffer under this most distressing malady, has been viewed too much in the light of a modern leprosy, or plague-spot, in place of a dispensation from an all-wise Creator; and the miserable subterfuges which blind mortals have resorted to for the purpose of disguising the malady, have interfered very materially with the proper treatment of the incipient and really curable stages of the disease. Dr. Burrows further observes—"It is very remarkable that when the desire of concealing hereditary insanity is so great as to run every hazard rather than confess it, yet no care is taken to correct such predisposition; and although a person knows that it is inherent in himself, he is the least careful in betraying proofs of it to the world. Eccentricity itself is a link in the catenation of the phenomena of a morbid mind. Individuals are often distinguished by a singularity either of ideas or pursuits; or by an equipage or dress unlike that of any body else. There must be some obliquity in the perception and judgment of such persons, for they certainly do not perceive the difference between themselves and the commonality. Many of these eccentricities or singularities, however, if unnoticed and unchecked, grow stronger with time, and ripen into perfect insanity.

"Among the highest ranks, hereditary insanity is more common than among the lower; for the former most frequently contract marriage with their own rank, or even with their own family. Hence, wherever the system of clanship, or family connexion, has been most strictly preserved, there it most prevails. Examples are numerous in ancient Scottish families; and insanity is more common in Scotland than in any other country.

"So likewise in all nations or sects, whose civil or religious institutes enforce intermarriage.

"Insanity among the Society of Friends, who usually intermarry in their own fraternity, is very prevalent.

"There is no reason why a maniacal diathesis should not exist, and be propagated through a family, as well as the diathesis of scrofula, phthisis, gout, apoplexy, epilepsy, &c., or a more adventitious disease like syphilis."

In the neighbourhood where I am now living, there are two families, named H. and L., where both insanity and scrofula are distinctly marked, several instances of both these diseases having occurred in each family: this I attribute in great measure to frequent intermarriages, or as the cattle breeders would say, "marrying *in and in*."

I am also slightly acquainted with a respectable farmer, in easy circumstances, who married his own cousin, the issue of which marriage contains *no less than three congenital idiots!* In my native county, Lincolnshire, I could adduce many instances amongst what are called the *old families*, where insanity may be traced through many links of the genealogical chain. But if my observation and experience entitle me to give an opinion on these matters, I would say that the evil does not stop here; numerous cases occur where, although *decided mental derangement may not be developed to an extent sufficient to obtain their isolation from society, yet the mind is so defectively organized*, that individuals so situated prove great sources of annoyance and vexation to their relatives, and *very bad*, if not *dangerous members of society*. Dr. Conolly, the talented physician of the Hanwell County Asylum, has most admirably and faithfully depicted this class of persons, in his able "Remonstrance with the Lord Chief Baron, touching the case of Nottidge *v.* Ripley."

During my residence in Lincoln, and in the course of my professional duties at Belper and in Hertfordshire (where I held an extensive district of country as medical officer to the Buntingford Union), many such instances have come under my personal observation; and it was only by ascertaining the existence of a certain hereditary taint, that I could obtain a *clue* to the erratic, and often reckless habits of certain

individuals. Does not all this prove, most incontestibly, the absolute necessity of the medical attendant of the family being acquainted with these hereditary tendencies; as by adopting preventive measures in early youth, and especially inculcating the saving truths of religion and morality, an actual outbreak of mental derangement may be prevented. It would appear, by the history of certain cases which have come under my own observation, that the maniacal diathesis (call it what you please), like a smouldering flame, may lurk unsuspected in the human frame for many years (nay, even until the evening of life), until a strong predisponent or exciting cause, being brought into operation (such as drunkenness, or great mental anxiety, vicissitudes of fortune in men; or childbearing, excessive lactation, or the decline of life in women), it shall at once leap into a vivid flame.

Haslam, in his "Observations on Madness and Melancholy," pages 229, et sequent. remarks:—"The investigation of the hereditary tendency of madness is an object of the utmost importance, both in a legal and moral point of view. Parents and guardians, in the disposal or direction of the choice of their children in marriage, should be informed, that an alliance with a family where insanity has prevailed, ought to be prohibited.

"Madness has many colours, and colours have many hues; actual madness is a severe calamity, yet experience has pointed out the treatment, and the law has permitted the imposition of the necessary restraint; but it very frequently occurs that the descendants from an insane stock, although they do not exhibit the broad features of madness, shall yet discover propensities equally disqualifying for the purposes of life, and destructive of social happiness.

"The slighter shades of this disease include eccentricity, low spirits, and oftentimes a fatal tendency to immoral habits, notwithstanding the inculcation of the most correct precepts, and the force of virtuous example.

"In illustration of the fact, that the offspring of insane persons are, *ceteris paribus*, more liable to be affected with madness than those whose parents have been of sound mind, it was my intention to have constructed a table, whereon might be seen the probably direct course of this disease, and also its collateral bearings; but difficulties have arisen. It appeared, on consideration, improper to attempt precision with that which was variable, and, as yet, unsettled: I have therefore been content to select a few histories from my book of notes, and to exhibit them in the rude state in which they were set down.

"1st. R. G.: his grandfather was mad, but there was no insanity in his grandmother's family. His father was occasionally melancholic, and once had a raving paroxysm. His mother's family was sane. His father's brother died insane. R. G. has a brother and five sisters; his brother has been confined in St. Luke's, and is occasionally in a low-spirited state. All his sisters have been insane: with the three youngest the disease came on after delivery.

"3rd. M. H.: her father had been several times insane; her mother was likewise so affected a few months before her death. Afterwards her father married a woman perfectly sane, by whom he had three children, two female and a male: both the females are melancholic: the male was a vicious character, and has been transported. M. H. has had ten children: three have died with convulsions, the eldest, a girl, is epileptic."

Now these cases are instructive in a twofold point of view—1st, they teach us that in many families there is a strong predisposition to insanity, and though mental derangement may not be actually developed, so as to require or demand their isolation from their friends and society, yet they are virtually disqualified for the purposes of life; and by their immoral and depraved habits, and reckless career in vice and profligacy, prove very useless, if not dangerous members of society; 2nd, from a careful consideration of this unfortunate mental organization (which is certainly far apart from the "*mens sana in corpore sano*") we have a key to the otherwise inexplicable fact of persons moving in very respectable, nay, often exalted, circles, being guilty of theft, (shoplifting) forgery, and other felonious acts which I need not particularise. Let not my motives, however, be misinterpreted: I do not wish, by any observations of mine, to throw the

ægis of medical science over the *really guilty*, but simply to protect the *morally irresponsible.*

That quaint old author, Burton, in his "Anatomy of Melancholy," has a subsection entitled, "Parents a cause by propagation," wherein he says:—"That other inward inbred cause of melancholy is our temperature, in whole or part, which we receive from our parents, which Fernelius calls præter naturam, or unnatural, it being an hereditary disease; for as he justifies, quale parentum, maxime patris, semen obtigerit, tales evadunt similares spermaticae que partes; quocunque etiam morbo pater, quum generat, tenetur, cum semine transfert in prolem: such as the temperature of the father is, such is the son's; and look, what disease the father had when he begot him, his son will have after him, and is as well inheritor of his infirmities, as of his lands. And where the complexion and constitution of the father is corrupt, there (saith Roger Bacon), the complexion and constitution of the son must needs be corrupt; and so the corruption is derived from the father to the son. Now this doth not so much appear in the composition of the body, according to that of Hippocrates, in habit, proportions, scars, and other lineaments; but in manners and conditions of the mind; et patrum in natos abeunt cum semine mores." The same learned author (Burton) remarks, towards the close of the same subsection:—"So many several wayes are we plagued and punished for our fathers' defaults, insomuch that (as Fernelius truly saith) it is the greatest part of our felicity to be well born; and it were happy for humane kind, if only such parents, as are sound of body and mind, should be suffered to marry. An husbandman will sow none but the best and choicest seed upon his land; he will not rear a bull or an horse, except he be right shapen in all parts, or permit him to cover a mare, except he be well assured of his breed; we make choice of the best rams for our sheep, rear the neatest kine, and keep the best dogs: quanto id diligentius in procreandis liberis observandum?"

I am decidedly of opinion that this subject does not receive its proper share of attention at the present time. How frequently do we find own cousins by blood intermarrying, or persons, for the sake of money, title, or a good connexion, allying themselves with those who bear about their persons the most indisputable proofs of scrofula, consumption, &c.? Women, so far as my observation goes, appear to view matrimony as the *summum bonum* of human happiness and felicity; and provided they have *an offer* from anything appertaining to the masculine gender, do not (like the widow Wadman, in the case of "my uncle Toby's" wound) make any very serious inquiries as to the soundness of the gentleman's constitution, &c. Were these matters more carefully investigated previous to marriage, it would prevent much subsequent misery and crime, and the fearful spread of insanity, scrofula, and consumption, might be materially checked.

Dr. Wm. Hutcheson, the experienced physician of the Glasgow Royal Lunatic Hospital, has made some admirable remarks on this subject in the 29th Annual Report of that institution, pages 28-9, *et sequent.*:—"The largest number of cases have been hereditary, congenital, or constitutional; and in all these the strumous diathesis was exhibited in a more or less marked manner. Among the hereditary cases might fairly be arranged a large proportion of those which were of gradual approach, or for which no cause could be traced, and of those attributed to intemperance. The table given above contains only what are called the *exciting causes.* I am convinced, however, that *the predisposing cause of at least two-thirds is an hereditary tendency to the disease.* This is a fact of great importance, and imperatively demands the attention of the medical profession and of the public. It is obvious that the most effectual method of checking the increasing number of the insane would be to modify or eradicate the hereditary predisposition to the disease. It is not sufficient that asylums are now better constructed and better regulated than they formerly were—that the curability of insanity is more certain and its cure more prompt, or that the popular notion respecting it is so far modified that it is now looked upon as a disease as capable of alleviation by medical treatment as any other. These circumstances are, no doubt, advantageous in inducing the friends of pa-

tients to avail themselves of the means of treatment at an earlier period after the commencement of the attack, and ensuring a more speedy and certain recovery, but they have little tendency to prevent the spread of the disorder. We must look to other and more effectual means. The tendency to the disease must be lessened and destroyed; and to the individuals so predisposed, and to their guardians, we must look for the accomplishment of this desirable end. Medical men can only point out general principles, the proper application of which must be left to the judgment of those more immediately interested. In a report of this nature it is impossible that a subject of such vast interest, and involving so many considerations, can be fully discussed. I shall, therefore, confine myself to a few observations on some of the measures most likely to counteract the hereditary predisposition to insanity. These are, the regulation of marriages, and education, moral and physical.

1st, *Intermarriages.*—This is a delicate topic, the discussion of which will have little effect so long as, in forming matrimonial alliances, men are blinded by passion, avarice, or ambition. It is scarcely necessary to state that when two parties predisposed to insanity marry, their children, even should they themselves escape, will be much more predisposed to the disease than either of the parents, and that it is next to an impossibility, if they survive, that they should enjoy soundness of mind. Such an absurdity is seldom perpetrated, and is so palpable as to require no remark. But it may be said, that if an individual possessed of this *diathesis* contracts an alliance with another who is not so constituted, the predisposition will be lessened in the children. This, no doubt, is true in many cases, but it is not so universally. If a man predisposed to insanity marry a woman of a highly nervous temperament, or of a highly strumous constitution, his children will be more predisposed to the disease than he himself was, and nearly as much so as if he had allied himself with one similarly constituted. The predisposition is more likely to be transmitted from the mother than the father. But this is not the only way in which ill-assorted marriages operate in spreading the tendency to insanity. Repeated marriages between blood relations not only give rise to general physical deterioration, but impair the powers of mind in the descendants. Imbecility or idiocy is the ordinary result, but positive madness is not an unfrequent occurrence. The number of intermarriages required to produce these lamentable results will depend on the original constitution of the individuals; but, sooner or later, they will assuredly take place. A strong predisposition to insanity will be produced in the children by the intermarrying of individuals of a highly nervous temperament or a strongly marked strumous constitution. Debauchery in either parent is apt to give rise to the same result, though the offending individual may escape. (In the course of my practice, during the last three years, I have regularly attended several members of a family, the father of whom was a very eccentric character, and of *habitually drunken habits.* All the sons have been confirmed drunkards: one is absolutely a madman in his cups, though quite harmless, and even shy, when not under the influence of John Barleycorn; another brother is subject to *delirium tremens;* the daughters are of a highly nervous temperament, one of them having suffered for several years from an exquisite form of *hysteria*, the paroxysms of which frequently border very closely upon *mania*, and even by a stranger, not acquainted with the patient's peculiar idiosyncrasy, might very reasonably be treated as such. For my own part, the results of observation and experience have clearly satisfied me that *insanity* and *hysteria differ only in degree, and not in kind:* they are both of them the effects or results of *perverted nervous energy, a disturbance or displacement of the natural equilibrium between the nervous and vascular systems!* Did any experienced practitioner ever meet with a case of *confirmed hysteria* in a female *who earned her bread by the sweat of her brow?* —that is, by strong muscular exertion. I fancy not. And why is this? Because the *nervous energy* (in the words of Dr. Calvert Holland, late of Sheffield), or *animating principle,* "has to invigorate the muscular powers. These regulate its current, and are the

sources of its expenditure. That which is employed, in a different position of life, in developing the mental faculties, in arousing their noblest efforts, and sustaining their loftiest flights, flows here in the direction of those bodily organs on which labour makes the greatest demand. The principle will not maintain two co-existing predominant actions." How is hysteria cured by matrimony except on the principle of diverting the *superfluous nervous energy* into a new channel—namely, the reproductive apparatus? Why are *barren* women often peevish, fretful, and difficult of management, but for the want of a *natural vent* for the *accumulated nervous energy?*) From what has now been briefly stated it may be inferred that marriage ought not to take place between individuals predisposed to insanity, or between those of a highly nervous temperament, or possessed of a strongly marked strumous constitution; and that when an individual predisposed to insanity determines on contracting a matrimonial alliance, he should seek for a partner of a robust constitution, and carefully avoid the nervous and strumous. This is one of the most important means of counteracting the tendency to, and diminishing the diffusion of, the malady; and quiet, temperate, and orderly habits will prove important auxiliaries.

2nd. *Education.*—Next to eradicating or diminishing the tendency to the disease, by modifying the congenital organisation, education, physical and moral, ranks as the most powerful preventive, and is probably the most likely of all to be adopted. It requires no sacrifice of the passions or prejudices of mankind; and is, therefore, the more apt to be attended to. By education I do not understand the common routine at present generally pursued in families and schools, which is better calculated to confirm or call forth the predisposition to insanity than to eradicate it: to be of service it must be founded on more enlarged views, both of the physical and mental constitution of man: it must be begun in the first days of existence, and continued till all the powers of mind be fully developed. I am not aware that the experiment has as yet been made to any extent, but I trust that an institution, having for its object the education of those who, by hereditary predisposition or constitution, are more than usually liable to the malady, may at no distant period be organised and take a place among the philanthropic establishments of the country."

The copious extracts which I have made from various authentic and trustworthy sources have swelled this paper to an unusual size. The importance of the subject, however, and the powerful influence which hereditary predisposition to insanity exercises upon the welfare and best interests of society, are so great, that I shall take an early opportunity of adding a few more observations upon the same subject in a future communication.

Belper, South Derbyshire.
November 1849.

ON SOME OF THE MORE PRACTICAL POINTS CONNECTED WITH THE TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
Assistant-Surgeon to the Royal Orthopædic Hospital.

[Continued from p. 579.]

On the Treatment of particular forms of Club-feet.—Of Talipes Equinus.

Nature of the deformity.—Elevation of the heel, varying in degree from the simple position of keeping the foot at a right angle to the most extreme extension of the ankle-joint, bringing the toes and bases of the metatarsal bones almost in a line with the bones of the leg. In these severe cases the anterior surface of the astragalus projects on the instep, causing an unnatural prominence. The anterior half of the foot is sometimes widened, owing to the separation of the heads of the metatarsal bones, from the increased pressure upon them tending to spread them out. The toes themselves are also drawn on to the upper surface of these bones, in a state of extreme extension. The plantar fascia in some cases is shortened.

Treatment.—Division of the tendo-achillis; gradual depression of the heel by flexing the ankle-joint; divi-

sion of the plantar fascia, if necessary, which rarely is required in these cases, owing to the extreme elevation of the heel keeping the membrane on the stretch.

Instruments required. — A sharp-pointed straight-edged knife, the blade about an inch in length, fitted with a long ivory handle; a calico bandage three yards long; a splint well padded, long enough to extend from the toes, over the instep and ankle-joint, to some little way up the leg; small pads of lint and strips of plaster.

Mode of performing the operation.— The patient is placed on a couch or bed, on the face, with the foot hanging over the end of it. An assistant then grasps the leg a little above the middle with one hand, and with the other holds the toes and anterior half of the foot, which he depresses steadily, endeavouring to flex the ankle-joint, and so putting the tendo-achillis firmly on the stretch. The surgeon then feels for the inner or the outer edge of the tendon (according to the foot he is operating on) with the nail of the fore-finger of his left hand, which serves as a guide to the point of the knife, which is to be passed underneath the tendon till the blade completely includes the whole width of it, which is ascertained by feeling the point of the knife beneath the skin on the opposite side: a slight movement of the knife from side to side will be sufficient (keeping the blade and tendon pressed firmly against each other) to divide it, when the separation will take place with sudden yielding of the joint, and often with an audible snap. There are two modes of passing the knife beneath the tendo-achillis (and I should always recommend its being passed beneath it rather than upon it, from above downwards, for reasons given in my last paper): the one is, that of passing the blade sideways, the flat part lying against the edge of the tendon till the point of the knife be fairly underneath it, when the edge of it is turned upwards, and passed towards the other side, and then made to cut the tendon through. This mode of passing the knife may be employed when the tendon lies deep, and is therefore little defined by any prominence it may form, or when the tendon lies much more towards the inside than usual, as in cases of varus in infants, where it comes into close relation with the artery. More caution is then required to keep the knife close to the tendon, to avoid cutting other parts; and the above mode of passing the knife will enable this to be done. The other mode is that of passing the knife horizontally at once, placing the point at a level with the under surface of the tendon, and passing the blade straight beneath it, and cutting upwards towards the skin till the whole of it be divided. The latter method may be adopted in the deformity of which I am now speaking—namely, the Talipes Equinus, in children beyond the age of infancy, or in adults, where the tendon stands up in a prominent position, and is quite out of the way of the posterior tibial artery; but in fat or very thin infants, and especially in varus, the former method is the safer of the two.

As soon as the tendon is divided, the edge of the knife is to be turned from the skin, and the blade withdrawn, at the same time that the assistant suddenly relaxes his extension of the ankle by bringing the heel upwards: if this be not done with care, there may be danger of the skin being cut through, more particularly in spasmodic cases, where the tendon often yields with so much suddenness that the time of separation must be closely watched, and the above precautions taken.

When the tendon has been divided, a small compress of lint and a strip of adhesive plaster are to be placed over the puncture. The foot is to be bandaged from the toes up to the knee, and the ankle-joint kept in a state of extreme extension, by placing a splint, well padded, in front, extending from the toes half way up the front of the leg. The object of keeping the foot in this position is to bring the two ends of the tendon into close contact, to ensure a strong union between them; in the early stage of reparation one of the most important points to attend to, for if the ends of the tendon were separated so immediately after its division, the union not only would be retarded, but ultimately would be so weak as to render the patient in a worse condition than before the operation, by causing the muscles to be so powerless that the heel would fall instead of being kept at a right angle, or being raised to a higher level; producing the deformity

called talipes calcaneus, instead of equinus.

The foot, when properly bandaged with the splint, as first described, must be kept in the horizontal position, and as much at rest as possible, care being also taken to preserve the natural temperature of the limb, by additional covering of flannel if required: in paralytic cases this is generally necessary, and is a point highly important to attend to, to insure the early and strong union of the two ends of the tendon, which is always slower and weaker in these than in the non-paralytic cases.

The next important practical point to attend to, is the time at which the apparatus may be applied by which the ankle-joint is to be flexed, and the uniting medium of the divided tendon thereby be put upon the stretch, without fear of producing weakness on the one hand, or of allowing the tendon to become too firmly united on the other, and so rendering it difficult to elongate the tendon sufficiently to overcome the contraction for which the operation was performed. And it is surprising, in infants, how very soon the firm union of the ends of the tendon takes place, causing very soon a rigidity in the joint, that requires to be overcome at a very early period, to avoid the return of the deformity.

As a general rule, a week is sufficient to keep the joint in its original position after the operation; in infants, five days may be long enough, when the apparatus has to be applied; and the following is the one that will be found to be most generally useful. It goes by the name of Scarpa's shoe, a description of which I shall now give, to save further explanation at a future time when recommending it for other cases:—It consists of a shoe-piece for the foot to rest on, with a raised margin, surrounding the heel and posterior half, sufficiently high to prevent the foot slipping off either laterally or posteriorly; which it is also further prevented doing by straps which pass from the inside of the sole of the shoe across the instep. There is also an ankle strap which girts the leg just above the ankle, and is attached to the posterior part of the rim that surrounds the heel. This shoe is attached to the leg by means of a thin long spring, which passes up on the outside as high as the knee, where it is fixed to a broad strap that encircles this part of the leg; on the inside the shoe is connected with the same knee strap by means of a long narrow strap, which can be shortened at pleasure, the object of which is to regulate the action of the spring on the outside, which is so curved as to have a tendency constantly to evert the foot; an object important in the treatment of varus, but not required in the talipes equinus. There is also another spring running along the outer edge of the shoe, for the attachment of a toe strap, to keep the foot everted. The remaining part of the instrument to be described is the joint at the ankle, which is made through the perpendicular spring on the outer side, and is turned by means of a common screw working through a ring, or against the cog teeth made to work against the spiral worm of a short screw placed horizontally on the outside of the ankle. This description is necessarily complicated, and may be difficult to understand without seeing the instrument itself.*

In the treatment of talipes equinus it is applied as follows:—The shoe part of the instrument is to be brought into a position that it may correspond with the position of the foot in the state of extreme extension: this is done by turning the screw at the ankle-joint. The foot is then to be placed in the instrument, and the various straps fastened, that it may be kept in the position of extension required, care being taken that the straps are not drawn too tight, and that the foot is kept in a line straight with the leg. The screw at the ankle may be turned every third or fourth day, to an extent only sufficient to flex the joint very gradually. In paralytic cases the extension of the divided tendon, as already stated, must be more gradual still, for fear of rendering the union too weak. The time occupied in flexing the ankle-joint in simple talipes equinus should be about a month or five weeks; by which time the tendon will have yielded sufficiently, and without any fear of the union being endangered by over stretching. In the paralytic cases of talipes equinus the flexion of the joint must be slower, for the reasons

* There are various kinds of apparatus invented and improved by different surgeons and instrument-makers. They all act upon the same principle.

already given; namely, the weaker condition of the uniting medium, and the longer time required to produce the necessary strength to prevent the heel falling downwards. In most of the paralytic cases of talipes equinus there is a tendency, after the heel has been brought down, for the foot to turn outwards, causing the deformity to become one of valgus; and if the care already spoken of, with regard to the slow flexion of the ankle during the union of the divided tendo-achillis, be not taken, the case will become one of calcaneo valgus.

When the tendon has become sufficiently strong, and the heel brought quite down, the next point is to keep the foot in a position that the patient may be able to get about without fear of the contraction recurring, and with comparative strength and ability to support himself firmly on the ankle-joint. This is to be done by means of a boot and iron, so made that the foot may be kept flat upon the ground, and in a line straight with the leg.

The points to attend to in the make of the boot are—that it should be easy, and broad enough across the toes to avoid cramping and pressing them one against the other: the sole should be made quite on *the straight*, and the part of the upper leather round the bend of the ankle must lace evenly and tightly enough to keep the heel in its proper position. Too much stress cannot be laid on these points, more particularly after the cure for talipes varus; for if the toes be cramped it is impossible the foot can remain in shape, nor be brought flat upon the ground, and in the straight position. The boot is of no use without some means be taken to prevent the heel being drawn upwards, a tendency to which there always exists after the division of tendo-achillis, except in some cases of a paralytic talipes equinus, where the action of the muscles is so feeble that no power sufficient to produce retraction exists; in fact, as already stated, in some of these paralytic cases the fear is of weakening the power of the muscles too much if the union of the two ends of the tendon be stretched too quickly.

The best means of keeping the heel down is by having an iron attached to the boot, with a joint at the ankle so contrived that it only admits of flexion, there being a lock behind to prevent extension of the ankle, and consequently elevation of the heel. This iron is fastened into the sole of the boot by means of a broad plate; the iron itself is made to stand out about an inch from the edge of the boot, to avoid friction against the ankle-joint, as well as to enable the strap that passes round the ankle to act by turning the foot outwards or inwards, according to the side of the boot it is attached; and this latter is a very important point to attend to. The iron, as a general rule in all cases of *paralytic* talipes equinus, should be placed outside the leg, and made to stand some way off the foot, for there is always an inclination for the ankle-joint to fall inwards, and for the foot to turn on its inner edge, when the heel has been brought flat upon the ground. This is prevented by having the iron on the outside, with a broad strap passing round it, and made to embrace the inner ankle and lower portion of the tibia. Traction made by this strap will then pull the foot and ankle-joint outwards, and keep the two in a straight line with one another. This inclination for the foot to turn in or out can always be ascertained after the tendon has united, by desiring the patient to place the foot flat upon the ground, and then observing in the act of walking which way the toes and inner edge of the foot turn: if they incline towards the opposite foot, or inwards, the iron must be on the inside; if outwards, it must be placed on the outside. There are two additional straps employed also; the one passing over the instep to keep the heel down in the boot; the other is attached to the upper part of the iron, and is very broad, and made to pass round the upper part of the leg, its object being to steady the iron, and to keep it *in situ*.

I have lately employed two thin irons, one on each side of the leg, extending from the knee downwards, and attached to the sole of the foot, instead of one thick one. I believe it to be a better plan, by tending to steady the ankle joint, and ensure the position of the foot being more in a correct line with the leg, and remaining flat upon the sole instead of turning on the inner or outer edge; which it is liable to do when one iron only is

employed. The whole apparatus need not be so heavy, for the two irons may be made very light and sufficiently strong, by having the strap which attaches them to the leg made much wider, extending from the knee half way down the leg, and so shortening the lever their length would give them if merely held by a narrow strap just below the knee. There is the stop joint to one of the irons, as in the single iron, to prevent the heel being drawn upwards with the ankle and instep straps also.

The patient should sleep in the boot, or in the Scarpa's shoe, or some other apparatus, to prevent the tendon contracting, for some time after he has commenced walking about; as a general rule, for two months at least, till the joint becomes quite moveable, and easily flexed beyond the right ankle. Many joints remain stiff, even after the heel has been brought down. In these cases there will always be a disposition for the heel to be drawn up again, if the foot were left for many hours without some apparatus to keep it fixed at right angles. This rigidity may be overcome by working the joint regularly every day in a position to produce extreme flexion, either by a second person taking hold of the foot, and bending it forcibly upwards beyond the right angle, or else by the patient himself producing the same motion by placing the foot flat upon the ground, and then bending the knee and ankle joint by bearing the whole weight of the body forwards upon them. Perseverance in working the ankle joint in this manner in all the kinds of club feet, when rigidity remains after the foot has been brought *in situ*, will tend much to recover the motion of the joint, as well as to guard against the return of the contraction of the muscles.

The length of time the boot and iron will require to be worn will depend upon the nature of the case. In the *talipes equinus paralyticus* (if it have commenced after childhood) there will be no hope of the patient ever being able to do without some mechanical support, for it is seldom or ever that the muscles recover their power more than partially, some weakness generally remaining which may be sufficient to destroy the balance of power, and cause a want of artificial support to keep the foot in a position to enable the patient to bear his weight upon it. The earlier the talipes equinus commences, and the sooner it is treated, the less will be the chance of permanent lameness remaining hereafter, whether it be confirmed paralysis or depending upon spasm, causing the inordinate action of one set of muscles over another.

Of the Treatment of Talipes Equino Varus.

Nature of the Deformity.—Elevation of the heel, with partial inversion of the foot, situated more in the anterior than posterior half.

Treatment.—Section of the tendo-achillis, and of the tibialis posticus, if offering resistance, as well as the tibialis anticus. The plantar fascia is very rarely implicated, except in extreme cases, where the arch of the foot is much increased: it should then be divided.

Instruments required in the operation.—A sharp-pointed, straight-bladed knife, for the division of the tendo-achillis and tibialis anticus; a small scalpel, and a blunt-pointed, straight-edged knife, for the tibialis posticus tendon; strapping and pads of lint to put over the punctures; a straight splint, well padded, to place in front of the ankle joint; and a calico bandage three or four yards long.

Apparatus required for the after-treatment.—A long wooden splint and thick pad, made of flock or wadding, to produce eversion of the foot, if the rigidity require mechanical means to remove the inversion that may exist. Scarpa's shoe, and other apparatus, to aid in keeping the foot in a straight line with the leg, and in being able to flex the ankle joint also by degrees.

Mode of performing the operation.—If the equino varus be very confirmed,—by which I mean, if the inversion be well marked, without being sufficient to be varus, and is at the same time rigid,—the tibialis posticus and tibialis anticus should be divided, and the eversion of the foot be effected before the tendo-achillis is divided.

In describing the mode of dividing these two muscles, I shall do so in detail, as by so doing the necessity of repeating the description will be saved when speaking of the treatment of confirmed varus, where the division of

these muscles always forms an essential part of the cure; though it may not always be required in the talipes equino-varus, of which I am now speaking.

In thin children, and in adults, the division of the tendon of the tibialis posticus is much easier to effect than in infants, more especially if the latter be very fat.

In dividing the posterior tibial tendon, the edge of the tibia is the guide, in contact with which the tendon is placed, in the position in which it lies just above the ankle. It has to be remembered that it is only at the lower part of the tibia that the tendon lies in front of the long flexor of the toes, which latter muscles it crosses underneath at a distance of two inches and a half to three inches above the inner malleolus, just within which space the tendon must be divided. If the knife be carried higher up the leg, the fibres of the long flexor only would be cut, without it be carried very deep, when the posterior tibial tendon could be reached, but with a great risk of wounding the artery. In infants and children the knife must of course be introduced lower down: a good guide is the hollow that is felt just above the projection of the malleolus, in which space the tendon lies, before passing down behind the inner ankle. In infants it is difficult to avoid sometimes dividing the tendon of the long flexor of the toes, owing to the tendons being so small that the depth of the one only is not easily calculated. It is a matter of no consequence, when the artery is not divided with it; and the only reason for not always trying to divide this tendon, as well as that of the tibialis posticus, is, that it seldom takes part in the production of the deformity, and that there is more danger of wounding the posterior tibial artery were it always attempted to be included under the knife. The following is the mode of proceeding in the adult.

The patient is to be placed on the right or left side, according as it may be the right or left leg to be operated on, with the knee bent. If the right leg, the surgeon stands on the left side of the patient in a leaning position over the left leg, by which he commands the use of his right hand with more facility on the part he is about to operate. An assistant stands at the end of the patient, and grasps the foot with his right hand, and places the left hand underneath the middle of the leg, supporting it with the palm and fixing it with the fingers and thumb. Other assistants, if necessary, steady the knee and pelvis. The surgeon then feels for the margin of the tibia about two inches above the malleolus, and, if easily found, he passes the point of a small scalpel close down by the side of it, observing that it keeps in contact with the bone. If the tendon be prominent naturally—or, if not, it can be rendered so by telling the patient to make efforts to turn the foot upwards and inwards, when it starts up, and the edge of it can at once be distinctly felt,—the passage of the knife is then rendered more certain, by being able to know that it is between the tendon and the bone. When the scalpel is passed to a sufficient depth, which experience, as well as judging the probable thickness of the skin and fat, and of the tendon itself, which the age of the patient ought to indicate, it is to be partially withdrawn, and the fascia divided more freely than the deeper parts, to ensure the more easy introduction of the blunt-pointed knife which is next to be passed in: the scalpel is then withdrawn. The blunt-pointed knife has a long narrow blade, the cutting edge of which, however, need not extend throughout its whole length, but only for its anterior half: the point is ground blunt to the width of the blade, making the end of the knife nearly square: it is not probe-pointed, which would interfere with its introduction into the opening made in the fascia, but merely abruptly blunt. This knife, then, is introduced through the opening made by the scalpel in the skin and fascia, and passed down close to the inner edge of the tibia, keeping its flat edge against the bone till it be well underneath the tendon; its cutting edge is then turned upwards towards the tendon, when the assistant is told to forcibly depress the foot, which puts the tendon upon the stretch, at the same time that the surgeon brings the knife upwards towards the skin with a slight cutting motion, when the tendon will be felt to suddenly snap, and the foot to yield. When the tendon of the long flexor is divided at the same time, the toes will be felt to relax with the yielding of the

foot. The blunt-pointed knife is then to be withdrawn, and in adults, or in children of an age sufficiently advanced to have the edge of the tibia well defined, an interspace can be generally felt between the two ends of the divided tendon by pressing the finger down by the side of the bone. If the patient be very fat, however, it is difficult to feel this, nor can it be done in infants, owing both to the smallness of the tendon as well as to the difficulty of finding the margin of the bone, as well as there generally being sufficient fat to render any separation still more obscure.

It is not uncommon in adults, and in children of an age to have the muscles and bones well defined, to find the tendon of the tibialis posticus muscle lying partially upon the tibia, the altered position of the foot causing it to overlap the inner margin of the bone, more particularly if the muscle be rigidly contracted either naturally or during the operation. When this altered position of the tendon exists, care must be taken that the knife do not transfix it. This is to be done by pushing the tendon with the forefinger as near to the edge of the tibia as may be practicable before introducing the knife, and by then passing the blade of it obliquely beneath it and the upper surface of the bone, should a portion of the tendon be still lying upon it, making the puncture in the skin rather over the bone than in a line with its inner margin, and then raising the blade perpendicularly when it is well underneath the tendon.

In infants or very young children, more particularly if fat, it is by no means always an easy operation to divide the posterior tibial tendon, without the surgeon has had a good deal experience; for it is not only difficult to find the only sure guide to the tendon—namely, the inner margin of the tibia,—but it is also difficult to know when the knife is sufficiently deep to include the tendon without including the artery at the same time. The surest way to find the margin of the tibia in infants is to press the thumb forcibly into the hollow just above the prominence of the inner malleolus. There is generally less fat in this situation, at the same time that the curve of the bone is more easily felt, and the commencement of the shaft of the bone more easily traced, than from above downwards. Experience, as well as judicious calculation of the thickness of fat, must be the guide to the surgeon as to the depth the knife should pass before the tendon be divided: if not deep enough, it may be only partially or not at all divided; and if passed too deep, the artery may be wounded or cut through (and the latter should always be ensured by introducing the knife and cutting freely *against* the bone, if suspicions exist that it has only been punctured). Should any doubt exist either in the surgeon's or in the assistant's mind that the tendon has not been divided, the knife must be reintroduced, and a second attempt made to do so. The flexor communis is often divided in infants with the tibialis posticus; for in them the latter muscle does not come so much in front of the former as in children farther advanced in years, or in adults,* so that there is more liability of dividing the two together.

Should it be deemed necessary to divide the anterior tibial as well as the posterior, for the *equino varus*, the following is the mode of doing it:—Place the patient on the back, the surgeon standing in the same position as for the division of the posterior tibial, either before or behind the foot according to the leg being operated on; the assistant holding the foot also in the same manner, his office being to turn the foot outwards when told to do so. In infants it is often difficult to find the tendon, both owing to the thickness of the fat as well as to its turning round the inner edge of the instep so close to the end of the tibia, that without the muscle be in action it lies buried in the bend of the ankle-joint, and cannot be felt. The point to feel for the tendon is where the inner edge of the foot joins the leg: in fact, in the deepest part of the hollow of this situation, pressing the end of the fore finger forcibly down, keeping quite on the inner edge of the ankle-joint, a thin

* I have two preparations, owing to the kindness of Mr. Pretty, of the Mornington Road, who sent me the feet of a still-born child, with *double varus*, which show beautifully the relative position of the various tendons, and the degree of contraction. I shall have occasion to refer again to them.

cord-like substance will generally be found if the muscle be in action, and if it be not it can frequently be made to act by scratching and tickling the sole of the foot: a sharp-pointed knife is to be introduced, making a dip down deeply into the hollow just referred to, when the tendon will be felt to snap, and the foot at the same time to yield. The anterior tibial artery is sometimes divided in this operation in infants; it is so small, however, that no bad consequences arise from it—at least I have never seen any. The extensor proprius pollicis is often divided at the same time with the anterior tibial in infants, if the knife be passed too much in front of the ankle-joint. The division is not required in the cases I am now referring to—namely, the equino varus, though it may be in severe forms of varus itself. In one of the feet in the preparation I have referred to, sent me by Mr. Pretty, the varus is so confirmed, and the tendon of the extensor pollicis so rigid, that any attempt at eversion of the foot only increased its tension, and showed the necessity for its division had an operation been performed.

In adults, the division of the tendon of the tibialis anticus is not difficult when it is required for equino-varus; for if it cannot be felt beneath the skin from its own size, it can be easily made to start up, by telling the patient to put the muscle into action by trying to turn the foot upwards and inwards. In some severe cases of varus (and it has generally been in patients at the age of ten and twelve years that I have observed it) the skin at the bend of the ankle at the inner edge forms so thick a fold, at the same time that it stands out from the joint itself, that it can with difficulty be sufficiently pressed down to enable the tendon to be felt: in these cases the assistance of the patient is required to put the tendon on the stretch by voluntary turning the foot inwards.

The important tendon, after all, is the tendo-achillis, for it must always be divided in the equino-varus, whether the tibialis anticus and posticus be or not, for the elevation of the heel is always more marked and more difficult to overcome without operation in these cases, than the inversion of the foot. The mode of performing the operation for the division of the tendo-achillis I described when speaking of the treatment of talipes equinus, and need not again repeat it.

After the division of these tendons, and the application of small pads of lint and adhesive plaster, a splint has to be placed along the inside of the foot, if there be much inversion, and another in front of the ankle-joint, to prevent any motion till the union of the two ends of the tendon has commenced. At the end of five or six days the eversion of the foot may be commenced, which is done by having a long pad placed along the outside of the leg, extending as far down as the ankle, at which point it is made very thick. A long straight splint is then bound firmly to this pad, being placed on the outside from the knee, and passing some distance beyond the foot. The lower end is notched to prevent the bandage or straps slipping up, which are passed round the foot, and made to draw gently upon it, by pulling in a direction downwards and outwards, so that by degrees the foot is brought into a straight line with the leg. When this has been effected the Scarpa's shoe has to be applied, or some other apparatus, by which the flexion of the ankle-joint can be gradually produced, until the sole of the foot is brought into a position at right angles with the leg.

In the cases of talipes equino-varus, where the inversion is sufficiently rigid to require the division of the tibialis posticus, this must be done, and the foot brought out, before the tendo-achillis is divided; otherwise, if they both were divided at the same time, the union of the latter tendon would become so firm before the time arrived for commencing the flexion of the ankle-joint, that nearly if not the same obstacle would exist as before the operation, and require the re-division of the tendon before the cure could be perfected. In all cases of inversion of the foot, whether it be the slighter form as in the equino-varus, or in the more severe form, as in complete varus, it is absolutely necessary, if the perfect restoration of the foot be wished for, to bring it into a state of complete eversion by seeing that the line of the inner edge of the foot is in a line with the tibia, or a little to the outer side, before

the flexion of the ankle-joint be commenced. Of this I shall speak again when describing the treatment of varus. When the foot has been brought into position, it has to be supported in a boot and iron, as described for the talipes equinus; and I should recommend the double thin iron, rather than the single thicker one: if the single one be employed, it is generally required to be on the inside of the foot and leg, to enable the ankle strap to act with more effect upon the joint, and to keep the foot in a state of eversion.

I shall describe in my next paper the treatment of talipes varus, valgus, equino valgus, calcaneus, and calcalneo-vagus.

[To be continued.]

ACTION FOR MALAPRAXIS.—QUELCH *v.* WAKLEY.—THE FREE HOSPITAL.

Court of Queen's Bench, Dec. 10.

THIS was an action brought by the father of a girl, aged 11 years, against the defendant, Mr. T. H. Wakley, one of the surgeons of the Free Hospital. The plaintiff sought to recover damages for alleged negligence in the treatment of a fractured thigh-bone, while his daughter was under Mr. Wakley's care in the hospital.

The principal witness in support of the case was the father, whose statements respecting the alleged negligence in the treatment of the fracture were not supported by any medical evidence or by any facts.

The fracture was oblique, in the upper part of the thigh-bone, and the retardation of ossific union was fairly ascribed to an attack of scarlet fever, which the patient had taken after her admission into the hospital.

Mr. Stanley, of St. Bartholomew's, who appeared as an independent witness on the occasion, considered the case as good a cure as the circumstances admitted of. This opinion was corroborated by the evidence of Mr. Guthrie, who examined the child during the trial. "The bone was irregularly united, but he considered it could not be otherwise." Sir B. Brodie and Mr. B. Cooper gave similar testimony, and the jury returned a verdict for the defendant, thereby exonerating him from all charge of negligence in the surgical treatment of the case.

There was some conflicting testimony respecting the mode in which patients are accommodated at the Free Hospital. This trial will, no doubt, lead to a full inquiry on the part of the Committee, and, if necessary, to amendment in the hygienic management of patients.

MEDICAL GAZETTE.

FRIDAY, DECEMBER 14, 1849.

THE first Report of the Hospital for Consumption, which has been recently issued by the medical officers of the Institution, is a most valuable statistical document in reference to the history of Phthisis and its treatment. We have here not only the results obtained in a large field of experience, but such a judicious arrangement of facts as cannot fail to render these results of great value in a practical point of view. There is no better way of arriving at the true history of a disease, than that of submitting a number of cases indiscriminately collected to the daily observation of half a dozen well-informed practitioners. The disease may be thus studied in all its aspects, and any tendency to error, either in theory or practice, may be checked by the united judgment of the medical officers. We do not hesitate to affirm that the foundation of this useful Institution has been a heavy blow and great discouragement to the "consumption curable" doctors of this metropolis, and the publication of such reports as that which is now before us, will ere long effectually take away their occupation. Consumption has been hitherto one of the strongholds of quackery: by the establishment of this hospital it has been brought back to the legitimate domain of medicine. While a benefit is thus conferred on the community, medical practitioners are at the same time instructed in those methods of treating the disease which are really sanctioned by sound experience.

It appears that during a period of six years, *i. e.* from September 1842, to December 31st, 1848, the cases of Phthisis treated at the hospital were as follows:—

In-patients.	Males 542		888
	Females 236		
Out-patients.	Males 2137		3470
	Females 1333		
Total number of cases treated .			4358

This table shows, contrary to the view adopted by some continental physicians, that there is a much greater liability to phthisis in the male than in the female sex; a fact borne out by the returns of the Registrar-General for this metropolis, in which, during a period of four years, 1843-6, the deaths were more numerous among males than females in the proportion of 53 to 47.

The influence of age is a subject which has been greatly discussed. A table given in the Report, in which the ages are accurately recorded, shows that under 25 years of age the liability is greater in females than in males by nearly 10 per cent.; while above 35, the liability is greater in males than in females by about 12 per cent.

"Comparing the liability of individuals of the same sex at different periods of life, we find that in males the disease is slightly less frequent before the age of 25 than it is after 35, being in the proportion of about 31 to 33; whereas in females, the liability to the disease is considerably greater before the age of 25 than after 35, being in the proportion of about 41 to 24. This difference, perhaps, depends in some measure on the influence of hereditary predisposition, which, as will subsequently be shown, manifests its effects much more frequently in females than in males, and therefore it may be expected to do so in early life. On the other hand, males are subjected to various injurious influences resulting from their pursuits, habits of life, trades, and occupations, tending to the development of the disease at a later period of life. The practical conclusion, however, to be derived from the examination of these facts, is this, that the period of human life from 25 to 35 is a most important one in both sexes, as far as the development of consumptive disease is concerned: hence the peculiar necessity of guarding against all those circumstances which may tend to the production of the disease, and of carefully watching the earliest indications of its approach. The vigilance, always necessary, is especially requisite in the case of females from 15 to 25—a period of life at which the liability to disease is nearly as great as it is from 25 to 35, when it has reached its maximum. On looking over the columns of the table which contain the numbers of the patients, we notice that they are very few at first, *i. e.* below 5 years of age; they gradually rise up to the period of 35 years of age, and as gradually fall until they become as few between the ages of 65 and 75 as they are under 5 years of age."

A comparison of these results with the relative numbers living at different ages, shows that while the greatest liability to consumption exists in individuals of both sexes from 25 to 35, it is rather greater above the age of 35 than is assigned in the table which accompanies the report.

The influence of social condition, as far as relates to the *married* or *unmarried state*, is summed up in a few words.

"Amongst the consumptive patients married over 25, the males exceed the females by about 18 per cent., and the non-consumptive males exceed the non-consumptive females by about 12 per cent. On the other hand, amongst the consumptive patients unmarried under 25, the females exceed the males by about 10 per cent., whilst the non-consumptive females exceed the males by only about 5 per cent.: these facts suggest some interesting conclusions, and also tend to confirm the inference already drawn, that consumption is more fatal to females than to males under 25 years of age.

"The widowed non-consumptive are more than double the number of widowed consumptive patients, whilst the number of widows of both classes is much greater than that of widowers."

There is great difficulty in fixing the amount of liability incurred by the pursuit of particular trades or occupations, because it is impossible to separate from this modifying condition the influence of hereditary predisposition, intemperance, and want of food. It would appear as a general result, that tailors, clerks and shopmen, printers and compositors, are among the most frequent patients at this institution.

"Hence, the inference is a correct one, which assigns to these different occupations the power of exerting a more or less injurious influence on the health of those engaged in them; for whilst some are ren-

dered liable to both consumption and disease in general, others who are less liable to disease in general are particularly so to consumption."

The following conclusions are of interest in reference to *hereditary predisposition*:—

"Daughters are more liable to inherit consumptive diseases from their parents than sons, in the proportion of two to one."

"The father transmits consumptive disease to the sons in 59·4 per cent.; to the daughters in only 43·5 per cent. The mother to the sons in 40·6 per cent., but to the daughters in 56·5 per cent."

"These facts alone, illustrating the influence of sex on the transmission of disease, afford very striking evidence that such transmission takes place. They indicate, also, an important consideration in a social point of view—viz. that those persons who have a tendency to the disease should, before entering on the social relation of married life, reflect on the great probability there is of transmitting this disease to their offspring: the consideration applies to both sexes, but in an especial manner to females; and shows that maternal influence, whether for good or evil, is not less important in a physical than in a moral point of view."

There are some interesting statistical results recorded in reference to symptomatology and treatment. These we shall notice at another time.

THE case of VICKERS *v.* SHIPTON, reported at page 988 of our last number, shows a lamentable want of system among General practitioners in charging their patients for medicines and attendance. The case itself was of such a nature that, as the learned Judge intimated, it should never have been brought into a Court of Law. A retired attorney, who was the defendant in the action, sustained a serious accident on a railway, which, but for the skill and attention of the plaintiff, would probably have led to the loss of the jaw-bone, and much protracted suffering. The plaintiff was his usual medical attendant, and selected by him. The defendant received from the Railway Company, as a compensation for the injury, £400, and all the costs of legal proceedings. Of this he proposed to reserve to himself £375, and to pay only £25 to his medical attendant! It seems that there had been 43 visits, and a supply of 40 draughts, 19 bottles of lotion, some boxes of ointment, and lint. For these, the plaintiff, who is a general practitioner of twenty-seven years' standing, charged, as we think, the moderate sum of £42—*i. e.* about one-tenth of the amount which the defendant had received as a compensation; but it is clear that the latter considered that his lower jaw was over-valued at this sum. At first he thought £15 a sufficient remuneration, but he subsequently paid £25 into Court. His counsel, Sir F. Thesiger, who, we believe, is in the habit of taking fifty-guinea fees and "refreshers,"—a description of fees unknown to the medical profession,—"was prepared to contend that the charges were extravagant, and that the sum which the defendant had paid into Court namely, £25, was an ample payment." The fact is, in order to earn his fee on this occasion, the learned counsel was obliged to contend something or other; and, as he could not impugn the plaintiff's skill and practice, he attacked his bill; and, by the aid of medical testimony, endeavoured to reduce the items of the account.

At the rate of 5s. a visit, the Lord Chief Baron estimated the total amount chargeable at £16. 5s.; but, notwithstanding the admission made by some medical men that there was no settled rule on the subject, and that they got as much as they could from their patients, the jury took a very common-sense view of the matter, and returned a verdict in the plaintiff's favour for £40—*i. e.* for *one-tenth* part of the sum awarded by the railway Company.

This case has clearly brought to light the fact that there is no settled rule or general custom of charging among medical practitioners, and it leads inevitably to the inference that the sooner some rule is adopted the better. There is something disgraceful in the public admission that half-a-guinea, one guinea, or even two guineas per visit may be charged, provided the respective fees can be extorted from the patient.

It would, we think, be advisable that general practitioners should make no charge for medicines, but fix a higher fee for their visits, having a due regard to the station in society occupied by the patient. The same fee cannot be paid by the labouring, trading, and professional classes. To the two former it might be 5s. per visit, including medicines; to the latter, from half-a-guinea to a guinea, also including medicines; and when, besides a mere visit, *surgical* assistance is demanded, there should be a special fee on each occasion. There is, unfortunately, no Society in Medicine as there is in Law to look after these matters. The solicitor is fixed by his 6s. 8d. and 13s. 4d., and any overcharges may be reduced by taxation. The rank of the person does not affect the amount; but it is open to an attorney, as it is to a medical man, to remit the fees to one who is too poor to pay them. In the medical profession we believe this remission of fees to be a daily practice. Lawyers are, however, so accustomed to fixed and unalterable rules, that they cannot believe any professional charges to be fair or just which are not based on similar rules. But there is this obvious objection to the adoption of the legal system: if the fee be high, the poor cannot pay it; and if low, medical practice will be unremunerative. So soon as the system of charging for medicines has been wholly abolished, we shall have made one good step towards a reformation of the present practice.

Reviews.

Transactions of the Provincial Medical and Surgical Association. Vol. XVI. Part 1. 8vo. London: Churchill; and Sherwood, Gilbert, and Piper. Worcester: Deighton and Co. 1848.

This volume contains—1st. The Retrospective Address, by Dr. Shearman, which has been printed in a separate form, and of which a distinct notice will be found in the present number of our journal.

2. Observations on the Existence of Free Carbon in the Human Body (with plates), by Dr. Paxton, of Rugby. These observations constitute a paper which was read at the meeting of the Association at Derby, August, 1847. We shall select such portions as we think possess practical interest to our readers on a subject having something of novelty, from the unfrequency of its investigation.

"It is a curious fact, that the only elementary substance as yet detected in organized bodies, chemically uncombined, is carbon. There is no part of the animal system in which it is so frequently met with as in the bronchial glands. The true cause of their blackness, I believe, was first demonstrated by Dr. Pearson."

"The extent of black discolouration bears some relation to the age of the person, to the state of the lung, and to the nature of the air breathed, particularly to the quantity of carbon it contained. The bronchial glands are always proportionably larger and blacker in those who are affected by chronic disease of the lungs.

"In persons advanced in life there is a disposition to carbonaceous retentions, more especially in the lungs; it indicates the period of senile atrophy at which they have arrived. A certain amount of black lines in the interlobular tissues, a grey or black web in the interior, occupying a greater or less space, with specks of various dimensions, and granules of the same appearance, constantly characterise the lungs of the aged."

"The carbon of the lungs in the aged is not always derived from the inspiration of impure air, but it appears frequently at least to depend on insufficient combustion."

"Chronic pneumonia, whether simple or accompanied by tuberculous accretions as a consequent affection, occasions accumulations of carbon, which are unequally insinuated in the pulmonary textures."

"Tuberculosis, or true phthisis pulmonalis, as it advances to a fatal issue, destroys the vesicular and tubular structures; consequently the aërial spaces become more and more limited, and in proportion to the extension of the disease, the chemical changes required in respiration are equally limited. If the disease is protracted, similar depositions, from the causes just mentioned, take place; sometimes we perceive them centrally in the tubercle, but usually the carbonaceous depositions circumscribe the tubercle." (p. 51-53.)

Dr. Paxton combats the opinion held by many pathologists, that these carbonaceous deposits are not injurious, but rather salutary, by opposing a barrier to tubercular deposits: he observes—

"On the contrary, I regard melanotic stains as marking a stage of degeneration in which the vascular and aerial apparatus is most seriously involved. So far as uncombined carbon invades the lungs, in the same proportion are the circulation and the respiration impeded. We may, therefore, consider productions of black matter as no other than an unmixed evil." (p. 54.)

On the cause of these deposits the author remarks—

"In the cases I have studied, the retention of carbon arose under the following circumstances:—1st. During the reduction of animal power by lengthened years, when the pulmonary organs seem unequal to the task of expelling carbonic acid. 2dly. Where the existence of disease prevents both the reception of oxygen and the escape of carbon from the lungs. 3dly. Where the individual lived in a situation in which we might suppose there was insufficient oxygen in the atmosphere he breathed. It is not unreasonable to assume that every one of these causes, or a combination of them, may be sufficient to account for the retention of carbon in its passage through the vessels." (p. 55.)

The author gives a very interesting case of carbonaceous cutaneous excretion:—

"The most extraordinary instance of the production of carbon I have ever witnessed is that of a young lady, who having been in ill health for some years, from an affection of the heart, has now exudations of pure carbon on the skin round the orbits, and about the mouth. It is washed off in the morning, but it reappears in the evening. When wiped away with a napkin, we are immediately struck by the black sooty appearance. In a word, this exudation has all the properties of the smoke collected from the flame of a lamp." (p. 55-6.)

With regard to this statement, we are inclined to ask—Has it been proved chemically that the substance thus exuded is really carbon?

The extraneous introduction of carbon is briefly alluded to; and of this form of deposit, as well as of the preceding, well-executed coloured engravings are given.

3. A case of Medullary Sarcoma, together with observations upon the formation and growth of these tumors, by Dr. Morris, of Spalding.

The account of the post-mortem examination of the tumor in this case is so clearly and concisely given, that it will of itself almost furnish the history and symptoms to those who have witnessed the irregularities, and at the same time steady progress of such growths.

"*Sectio cadaveris sixteen hours after death.*—Mr. Vise first commenced by making a crucial incision over the substance of the tumor; the angular flaps thus formed were dissected back, and the whole mass exposed; the little prominence observed upon its surface contained medullary matter. The tumor was firmly bound down by the fascia, which was considerably thickened. Upon dividing this freely, the tumor presented a lobulated appearance, and when pulling it backwards from off the dorsum ilii towards the sciatic notch, I accidentally burst one of the lobules, when a quantity of a jelly-like substance escaped, which had a remarkably glutinous feel: the cyst in which it was contained was firmly attached to the inferior border of the crista ilii, and to the fascia covering the glutæi muscles. The mass was now lifted up and forced backwards towards the sciatic notch, when it emerged from the pelvis. We now found that by its pressure from within it had caused absorption of a great portion of the ilium, including the posterior inferior spinous process, as far up as the ridge from which the glutæus medius arises. Several small spicula of bone were adherent to the tumor when raised up: that portion of the right side of the sacrum which gives attachment to the pyriformis muscle was also absorbed. After some little difficulty the tumor was pulled out of the pelvis, which it completely filled; it was not adherent to any portion of it: the rectum was empty, and forced backwards with the coccyx; the prostate

and bladder were carried upwards towards the symphysis pubis; the prostate gland was quite healthy. The morbid mass had more or less displaced the various organs within the pelvis, but none of them had partaken of the diseased action: the pressure from the tumor upon the prostatic portion of the urethra was quite sufficient to account for the retention of urine. After the tumor was removed from the pelvis, the distended bladder was distinctly visible projecting at its superior aperture. The body was now turned upon its back, and the integuments of the abdomen were reflected downwards upon the thighs, and the contents of the abdomen fully exposed. The bladder was much distended, and reached upwards to the transverse arch of the colon: the enlarged size of the bladder caused its lateral ligaments to be very distinct; by pressing upon it the urine was forced out per *vias naturales*, now that the interior of the pelvis had been relieved of the tumor. The abdominal viscera were healthy; the descending portion of the colon and its sigmoid flexure contained a quantity of scybala; the fæces, indeed, were unable to pass beyond the brim of the pelvis, on account of the pressure of the tumor."

"It is truly surprising with what rapidity the tumor grew: it emerged from the pelvis in June, and by October had attained its immense size. The youth's sufferings were occasionally of a most acute character, and he sought relief from his terrible malady by having recourse to stupefying doses of laudanum." (p. 62-63.)

4. On Fever, in its Relations to Sanitary Reform, by Dr. W. Davies, of Bath.

This essay constituted the "Address in Medicine," delivered before the Association when they met at Bath, in August, 1848.

Dr. Davies first discusses the subject of fever under the following points of view:—

"1st. That its progress is marked by a specific eruption.

"2d. That it is propagated by contagion.

"3d. That there is no distinct evidence of its ever spreading in any other way than by contagion.

"4th. That the same individual is not, for the most part, liable to more than one attack during life." (p. 70.)

The author's definition of contagion we regard as sufficiently precise, and equally applicable to cholera as to typhus.

"By the term contagion, I mean to express the means by which a specific malady is communicated from a diseased to a healthy person, without inquiring whether obvious contact takes place, or whether the *materies morbi* passes by means of the atmosphere through an appreciable space: it is clear that nothing can act where it is not, and therefore in either mode of communication I apprehend the system to become affected in precisely the same manner—namely, by the entering in and multiplying of the morbid matter in the blood up to that point of saturation when its presence becomes incompatible with the normal performance of the functions of the body, and disease is the result." (p. 75-76.)

Dr. Davies, without detracting from the value and importance of the present sanitary movement, warns his readers that these measures, if ever so complete, will fail entirely to eradicate fever from our land; and that unless this fact be duly admitted, disappointment will in the end result, and produce indifference. He endeavours to show that local circumstances of deficient drainage, &c. &c. &c., are not alone the causes of the prevalence of typhus in a district.

"In this particular, typhus occupies precisely the same ground as small-pox, measles, and scarlet fever; and however interesting such speculations may be, they are not of much importance to the practical physician. He wishes to ascertain the causes on which the spread of such maladies in the epidemic form depends, and he finds that while there are numerous circumstances which predispose the individuals of a community to fall into disease—such as insufficiency of food and clothing, depressing passions of the mind, and impure air, still, that the only exciting cause worthy of his attention is the communication of the disease from the sick to the healthy, and therefore that there is no immediate object so worthy of his attention as the early separation of the sick from the healthy; and next to that, it becomes his duty to devise means for the removal of the predisposing causes. But it is a fatal mistake if he thinks this has been accomplished when he can enter the dwellings of the poor without offence to the delicacy of his olfactories. He has then only effected the removal of one out of many evils; and but little good will follow in his steps if he leaves behind him, unmitigated, the hopelessness of destitution, with its physical and mental depression. It seems to me little better than a mockery to talk to a man about pure air when he wants bread. The room he lives in, and not the man, seems to be the grand object of the present day. Now, I would have the condition of the man

attended to first, and his room afterwards." (p. 94-95.)

Dr. Davies's criticisms on the evidence given before the Health of Towns' Commission, and on the conclusions thence arrived at, deserve attention.

5. Is a Biographical Notice of the late Dr. Holme, of Manchester, by Dr. W. C. Henry, read at the meeting of the Association held at Bath, August, 1848.

The biographer's opening, "Dr. Holme was one among those 'who are mentioned with reverence, rather for the possession than the exertion of uncommon abilities,'"—recals to our memory a sentence in Mr. Monckton Milnes's Life of the Poet Keats—"these pages concern one whose whole story may be summed up in the composition of three small volumes of verse, some earnest friendships, one passion, and a premature death," confessedly small materials for the manufacture of two volumes. Without refusing to Dr. Holme's memory the fullest mead of admiration which a large intellect and vast erudition may command from his most sanguine friends, we cannot but feel that the utmost his biographer has conveyed to us in the notice before us is throughout, negative praise.

Public justice requires that the eulogist should not conceal every defect, nor exaggerate every good feature which may be found in the object of praise; but under this obligation some may, with Sir John Falstaff, exclaim, "Save me from my friends."

6. Dr. Valentine Duke's Essay on the Cerebral Affections of Infancy and Childhood, is a clear, practical, and historical abstract of the present state of medical knowledge of the diseases in question. It has been elsewhere noticed.*

The Retrospective Address on the Detection and Treatment of some of the principal Diseases of the Chest. By Edward Shearman, M.D. &c. &c., Rotherham. Reprinted from the Transactions of the Provincial Medical and Surgical Association. 8vo. London. 1848.

This Address contains a lucid and connected exposition of the latest microscopical and anatomical investigations into the morbid structure of the lungs; and we shall only remark that it is highly creditable to the industry and research of Dr. Shearman.

The plates which accompany the essay form a valuable portion thereof: we confidently recommend them to the study of the practitioner, as a source whence he may with facility acquire correct views of the latest discoveries in pulmonic anatomy. Their execution reflects the greatest credit on the draughtsman, Mr. Tuson, and on the engraver, Mr. Adlard.

The publication of such truly practical papers as the preceding constitutes at once the worth and the glory of medical periodical literature. We could point to other transactions, reports, and journals, in corroboration of our estimate of British medical journalism. Not that we are insensible to the improved practical character of foreign journals; on the contrary, our copious abstracts from these which we lay before our readers, are evidence of our due appreciation of them. The opportunity which the medical journals afford for the publication of scatterred experience has tended not a little to increase the demand for them, while they have reacted on the profession itself in eliciting the production of concise monographs in all branches of science—monographs often possessing a far higher character than many of the voluminous treatises which issue from the press.

* See our number for August 24, page 325.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

December 3, 1849.

Cæsar Hawkins, Esq., in the Chair.

Tumor of the Thigh-bone.

Mr. Prescott Hewett presented a specimen of tumor of the thigh-bone, for which he had lately removed the limb immediately below the trochanter.

The diseased mass, of an oval shape, was lobulated on its surface, and extended from the middle third of the bone quite up to the point where the amputation had been performed. On cutting into the tumor, it presented the well-known characters of ence-

phaloid disease: at its circumference it was soft and elastic, but towards the bone it became harder, and striæ of osseous matter were found in various parts of its tissue. It sprang from the periosteum, which was very much thickened in the whole of its circumference; but the morbid deposit was only found on the anterior, external, and posterior surfaces of the bone. This membrane was easily detached from the bone, the surface of which was irregular and scabrous. The bone itself, corresponding to the disease, was very much hypertrophied, and especially towards the upper part, where it was not only greatly altered in shape, but its medullary cavity was nearly obliterated. The greater part of this thickened bone was very dense; on its outer surface, however, it was soft and porous, and easily scraped off with the knife: it was throughout of a pinkish colour, and exceedingly vascular, the vessels being much larger than usual. The portion of bone below the tumor was atrophied, but otherwise healthy; and so was the corresponding periosteum. The medulla, in the neighbourhood of the disease, was very red and vascular, and in some parts appeared as if mixed with morbid deposit; in the lower part of the femur, however, it merely presented an increased degree of vascularity in some places. The knee-joint was quite healthy.

The limb was removed on the 29th of November, from a man, æt. 27, in St. George's Hospital. The disease had existed between nine and ten months; it began at about the middle third of the thigh, towards its outer side, with a diffused swelling, accompanied by intense pain in the whole limb, but especially towards the back part, and at first presented the appearance of periostitis, for which it was treated. The patient had never had syphilis nor rheumatism; he had twice met with injuries to the limb, and, after the last, had always suffered more or less pain in the thigh. He was pale and emaciated, but otherwise apparently healthy. The operation was performed in consequence of the progress of the disease, which gradually assumed the character of a well-defined tumor, notwithstanding the various plans of treatment.

Mr. H. C. Johnson exhibited a drawing of a

Fungoid Tumor of the Condyles of the Femur.

The diseased limb, from which this drawing was taken, was removed by him about five years ago, from a young gentleman. The case had been at first treated for simple disease of the knee-joint; it had been under the care of some eminent surgeons, and having rapidly become more enlarged, and taking on the aspect and symptoms of malignant disease of the bone, amputation was performed. The result was in all respects satisfactory, and the gentleman is now in the enjoyment of good health. A section of the bone presented a well-marked specimen of fungoid disease, and is faithfully represented by the drawing.

Also, by the same, a specimen of

Perforating Ulcer of the Stomach.

This was removed from a young lady, 18 years of age, who had been in a feeble anæmic condition for some considerable time, but had not given evidence of any organic disease. He was called to see her in consequence of sudden and severe pain in the abdomen, speedily succeeded by extreme prostration and death. An examination of the stomach revealed a small round well-defined penetrating ulcer, having all the appearance of having been punched out.

Mr. James Adams presented a specimen of

Imperforate Anus.

He was requested to see a child, two days old, suffering from this malformation. He introduced a trocar, and succeeded in getting away a small portion of the contents of the lower bowel; but not to such an extent as to afford any permanent relief. Two days after the child died, and, on examination, the colon was found to have given way by sloughing. The rectum terminated in a *cul-de-sac* about an inch and a half from the surface, and no cord or trace could be found leading on towards the skin.

Mr. Avery presented a specimen of

Rupture of the Left Ventricle of the Heart.

Mr. Toynbee exhibited a specimen of

Stricture of the Eustachian Tube.

This preparation was removed from a man about 50 years of age, who died from a disease of the lungs. He had been growing gradually dull of hearing for several years, and a short time previous to his death he became so deaf that he could not hear without being spoken to very loud. The stricture was situated at the part of the tube where it becomes continuous with the tympanic cavity, and was so small that it embraced a bristle introduced through it. The stricture was produced by a thickening of the osseous parietes of the tube.

Mr. Mitchell Henry exhibited the stomach of a patient whom he operated on for femoral hernia in the Middlesex Hospital.

The patient, a tailor, 58 years old, had long suffered from dyspepsia in an aggravated form; frequent vomiting, obstinate constipation, and excessive pain in the

præcordia, particularly after eating, were among his most distressing symptoms. For the last six months he had been a patient at one of the dispensaries, and on the whole had benefited by the treatment adopted. Three weeks ago he was admitted into the hospital with strangulated hernia. This had made its appearance for the first time five days before, and since that period had existed in a strangulated or at least incarcerated state. Its existence, however, had not been noticed until the afternoon of the same day that he saw him, and even then the symptoms to which it gave rise, though tolerably severe, were not extremely urgent, and might easily have been referred to the gastric affection from which he had so long suffered.

The vomiting had ceased, and the abdomen was soft and not very tender; but the bowels had not been relieved, and the existence of the tumor in the groin left no doubt as to the propriety of the operation, since all measures attempted for the return of the bowel had failed: the parts were found in a very natural, sound state, when exposed, for the man had never worn a truss, and no violence had been used. The stricture was formed by a few of the anterior fibres of Poupart's ligament, consequently it was not necessary to open the sac. No medicine was given after the operation, and in the course of the night the bowels were freely moved.

From this time, as far as the parts in the operation were concerned, the progress of the cure was quite satisfactory. The intestinal canal resumed its natural function, and the patient was able to take nourishment and light tonics; subsequently he was attacked with pneumonia, which for the time was subdued, but ultimately proved fatal. The dyspeptic symptoms also returned in an aggravated manner; he had intolerable thirst, occasional vomiting, and extreme pain at the pit of the stomach, particularly when he took hot liquids.

On the 13th day after the operation he died.

The body was examined 12 *hours after death.*—The incision made in the operation was reduced to a simple suppurating wound which had already considerably contracted. No opening had been made in the peritoneum, and the future occurrence of a hernia would have been prevented, had the man lived, by reason of a piece of omentum which remained in the sac. The portion of intestine that had been strangulated was ileum, and was easily discovered, for though the bowel had resumed its function it still retained the bruised appearance caused by the pressure to which it had been subjected. The lungs were in an advanced state of inflammation. The stomach, however, presented the most interesting appearance. It was thickened, indurated, and in parts, particularly about its middle, converted into a dense, hard, obscurely fibrous white tissue.

The nervous membrane here and there was studded with ulcerations, varying in size from a pin's point to a shilling. They resembled more nearly what Rokitansky has described as the hæmorrhagic erosion of the gastric mucous membrane, than any other form of ulcer. The root of the mucous membrane was red, injected, and softened. Along the whole cardiac border of the stomach these ulcerations extended in a chain. They penetrated pretty deeply, and were covered with what looked like a black slough, but what was in fact a layer of extravasated blood, blackened by the action of the fluids of the stomach. In one large spot the mucous and sub-mucous coats seemed to be removed, but the ulceration had stopped, and the surface was covered with a layer of firm lymph, gradually shaded off to the border, where the parts were more vascular, and the diseased action still in progress. This lymph had not yet begun to contract, as it probably would have done if the patient had lived. Consequently, though the ulcer was cured, yet the cicatrix did not present the stained appearance which it would have done at a later period.

To the naked eye, those portions of the stomach which presented the dense fibrous appearance before alluded to, seemed destitute of mucous membrane. Microscopic examination, however, showed it still remaining, but in a changed condition. The epithelium usually present on its surface was gone, as was also the columnar epithelium of the gastric follicles. These follicles were much thickened, opaque, greatly dilated, and absolutely choked up with their own secretion, mixed with blastema. The effusion of inflammatory products between them gave to this part of the stomach its fibrous appearance.

Those ulcerations which were still progressing, and covered on their surfaces with the layer of black changed coagulum, were in a different condition. In these spots the mucous surface was entirely removed, and the sub-mucous tissue in process of renewal. Here the gastric follicles had altogether disappeared.

These appearances bear a striking resemblance to those which are described by Mr. Simon, in the 30th vol. of the Med. Chir. Transactions, as characteristic of the ultimate tubercles of the glandular portion of a kidney in a state of sub-acute inflammation, and they also would seem to bear out the correctness of the observation that he there makes in regarding organs as truly inflamed when their secretion is in great excess and becomes mingled with a superfluous blastema.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Dec. 1, 1849.

F. HIRD, ESQ. PRESIDENT.

Case of Fish-bones impacted in the Rectum causing Death. By MR. CANTON.

THE patient, who was an old and intemperate man, had been accustomed, since February last, to lose, per anum, occasionally, a rather large quantity of blood, without his health being apparently impaired. The source of the hæmorrhage had always been attributed to internal piles. A few days before his death the hæmorrhage became more frequent, the blood being of a florid colour; at the same time a piece of fish-bone was observed projecting from the anus, and which, together with a few similar portions from above the sphincter, were removed. The temporary cessation of bleeding was followed, the next day, by renewal of hæmorrhage, when the finger, and subsequently, the forceps, were introduced into the rectum, and a large number of thin and pointed bones dislodged. The patient, however, soon became blanched by another loss of blood, and died. *Post-mortem*:—The stomach and small intestines healthy; the large intestine, in its whole length, much distended by fæces and flatus, and here and there fish-bones were found. The lower half of the rectum was of more than thrice its natural thickness, and the mucous membrane, in part, sloughy, and extensively and deeply ulcerated at the back part, whilst two or three jagged perforations were discovered in it. Several dozen of fish-bones were entangled in the disease, some of which, by opening into the hæmorrhoidal vessels, had given rise to the bleeding and consequent death. The bones were of a dark brown hue, having, most probably, derived that colour from the bile; they, together with the rectum, were placed before the Society.

Case of Tuphlo-enteritis. By MR. MARSHALL.

Ann Reeves, twelve years of age, a child of rather delicate constitution, but who had enjoyed tolerable health until a week of the present attack, when she complained that the excessive cold produced aching in the thighs, and then stomach-ache. On the 18th ult. she was taken with vomiting and purging, for which some medicine was exhibited, and two days after she appeared in her usual health; indeed, unusually active and lively. On the Thursday following, four days after the first attack, she got up at her accustomed hour, but soon began to complain of pains in the abdomen, of an intermitting character, accompanied by bilious vomiting, but unattended with the hitest tende.ness on pressure. The countenance was natural; the pulse slightly accelerated. As the bowels had not been moved for twenty-four hours, an aperient was given, and half a grain of opium and a grain of calomel. In the evening she began to complain of a pain in the right iliac region, which was aggravated on her turning from side to side. The pain was attended with a slight degree of tenderness on pressure.—Friday, 23d: Had passed a tranquil night; but, the local pain continuing, four leeches were applied, with marked relief, and a cathartic enema was administered. The pulse became accelerated to 100, the countenance flushed, and the tongue rather loaded, but moist; she, however, passed the night quietly, and nearly free from pain; but on the Saturday morning, at half-past six, suddenly the pain became extremely severe and general over the abdomen; the knees were drawn up; pulse 120; but there was no rigor, nor did the countenance appear at all anxious; the bowels had been moved several times in the night. A dozen leeches were immediately applied to the belly. She lost a considerable quantity of blood, and expressed herself greatly relieved; and she was then observed to lie with her legs extended; the flushing of the face subsided. A warm linseed-meal poultice was applied over the abdomen; and shortly after, warm flannels, with turpentine, were applied. Three grains of Dover's powder, with three of calomel, were given every three hours. On the following morning the symptoms became generally aggravated,—the breathing rather short, the pulse very quick and feeble, the abdomen tympanitic, with frequent vomiting. She gradually sank, and died at two o'clock, three days and a half after the second attack. The body was examined about twenty-six hours after death. The abdomen was considerably distended. The intestines generally were highly inflamed, their convolutions being, in many, adherent to each other, from the effusion of lymph, a large patch of which was observed upon the mesentery and on the colon. About two or three ounces of a yellowish-coloured serum, of a fæcal character, was found. On separating the lower part of the cæcum from its attachment, the vermiform appendix was found of a deeper colour than the rest of the intestines; and an ulcerated opening was found about an inch and a half from the point from which it takes its origin from the cæcum. This opening is jagged and irregular, and admits a moderate-sized bougie. About an inch from this ulcerated opening of the appendix, we found a hard substance, about the size of a small hazel-nut, which we cut down upon and removed. It appears to be fæcal, chiefly, and arranged in concentric layers round a small nucleus of some vegetable matter.

Rupture of the Right Auricle.

Dr. LANKESTER exhibited a heart, in which existed a rupture along the direction of the fibres at the upper part of the right auricle. It was taken from a man, by business a carpenter, thirty-four years of age, who had suddenly died the previous Saturday, after his day's work, whilst pulling a loaded truck into his yard. For several months previous to his death he had been in a delicate state of health, suffering under attacks of fainting, palpitation of the heart, nausea, and a choking sensation in the throat. He had had no medical attendance several weeks previous to his death. When seized, he was attended by Mr. Staning, house-surgeon to the Royal Pimlico Dispensary, who found him quite dead, with large quantities of blood oozing from his mouth. The body was emaciated, and on examination the lungs, liver, stomach, and bowels, were found in a healthy state. On examining the heart, it presented about the usual size, but on handling it felt unusually flabby. On cutting into it, the whole muscular substance was less than usual, and the walls of right ventricle and auricle were remarkably thin. At the upper part of the auricle there was found an irregular opening, of the size of a shilling, the edges of which were remarkably thin, and presented no other morbid appearances than a great deficiency of muscular fibre. The walls of the auricle were excessively attenuated, in many points appearing to be held together only by the serous covering of the heart. The fibrillæ of the muscles, under the microscope, presented no peculiarity, except perhaps a less decided appearance of the striæ which characterise the muscular fibres of the heart. Dr. Lankester regarded this case as remarkable—1, as an instance of the rupture of the cavity of the heart, in which that lesion least frequently takes place; 2, rupture as the result of atrophy, with little or no dilation; 3, the youth of the person affected; 4, of the absence of the usual forms of disease which induce rupture of the heart.

Case of Chronic Laryngitis.

Dr. OGIER WARD exhibited a specimen of chronic laryngitis attended with ulceration of the root of the tongue, and the base of the epiglottis, which rendered deglutition so difficult and painful, that the patient was actually dying of inanition; for the attendant tuberculosis of the lungs was not sufficiently advanced to destroy life, nor even to give satisfactory physical signs of its presence. In this case Dr. Ogier Ward applied a strong solution of nitrate of silver to the back of the fauces and the epiglottis, with the immediate result of enabling the patient to take food, though previous to the operation he had not been able to swallow even a little water. The same result followed each application of the caustic, even to within half an hour of the patient's death. The case was brought forward as illustrating the power of the nitrate of silver to allay irritation of the glottis, and the slight dependence to be placed upon an improvement of the symptoms thus obtained even in cases where the physical signs of the disease in the lungs are obscure or even absent; bronchial respiration at the upper part of the chest being the only physical sign present of extensive tuberculosis combined with emphysema.

Foreign Body in the Larynx.

Dr. ROUTH exhibited a specimen of diseased larynx. It had been taken from a patient he had that day examined, with Mr. Norton, of Baker Street. The patient, Oct. 25th, was affected with phthisis in the third stage. The case bore some resemblance to that just mentioned by Dr. Ward, although the cause of the ulceration was different. It appeared that about two years back the patient had first begun to suffer from sore-throat, which had continued more or less ever since. More lately, however, about three or four months, his voice became hoarse, like that of a patient labouring under chronic laryngitis. Towards the last week of his illness, when Dr. Routh first saw him, there was great pain and difficulty in deglutition. He took only liquids, but even these induced such violent fits of coughing, that he at last refused to take any kind of food or medicines whatsoever. In connection with the disease in the chest, the case was supposed to be one of tubercular ulceration of the larynx. As very great weakness was present, nutritious injections, wine, and counter-irritation, were ordered, under the influence of which he rallied for a day or two, but subsequently sunk again, and finally died, apparently from pure exhaustion. The post-mortem examination discovered a large cavity in the right lung, and much tubercular consolidation in the left. The larynx was generally œdematous; the whole of the cartilaginous structure unusually ossified; the glottis having evidently been unable to close during the descent of ingesta. Several points of ulceration were observed about the parts, but no tubercular deposits, as had been expected. Between the two vocal cords on the right side was a deep gangrenous-looking ulcer, with much thickening of the parts around; and about one inch lower down in the anterior part of the trachea was another ulcer, in which a piece of bone had been firmly wedged, behind which the ossified cartilage had been almost entirely absorbed, so as to break on the forcible extraction of

the spiculum of bone. The piece of bone had been inadvertently lost, so that he could not exhibit it to the Society. It was about the size of a small pea, ragged, but more elongated, and had apparently been taken in with his food, though neither he nor his mother had any recollection of the occurrence some two years ago. The spiculum had probably first lodged between the chordæ vocales, superiorly; and subsequently, being liberated by the ulceration, had fallen forward, and got entangled in the cartilage below. It seemed to have been the source of all the mischief in the larynx, and he thought it should be looked upon as the immediate cause of death, rather than the disease of the lung, which, though extensive, was much less in degree than what he had frequently observed in other cases of phthisis.

The Falling in of the Walls of the Chest during Inspiration in some Diseases of the Chest.

Dr. Sibson said he had first observed the interesting phenomenon in question in the case of a young man, aged thirty-four, who was admitted, in 1843, into the Nottingham Hospital, under the care of Dr. Hutchinson and Mr. White. He suffered from extreme obstruction to respiration, owing to excessive contraction of the fauces and larynx, the result of a long-standing syphilitic affection. The countenance was pale, shrunk, and anxious; he spoke in a whisper. The inlet through the larynx was so narrow that he could scarcely breathe. The case urgently demanded laryngotomy; which was performed by Mr. White. Before the operation, the inspiratory efforts were very laborious; the abdomen protruded considerably, and with force; but the sternum and ribs, instead of advancing, actually fell backwards over their whole extent, during each inspiration. The chest was narrowed and flat; the abdomen prominent; the lungs were lengthened, their lower margin being nearly two inches lower than usual. The cause of that remarkable appearance, the falling back of the whole walls of the chest, during inspiration, was apparent. The diaphragm descended with force, dragging after it the base of the lung, and so lengthened the whole lung from apex to base. As the air could enter the lung only with the greatest difficulty, through the narrow larynx, the lungs being lengthened necessarily collapsed, and the ribs over them were forced inwards by atmospheric pressure. If a closed bladder, two thirds filled with air, be lengthened, its walls collapse; if it be shortened, the walls bulge out: so with the lungs; if they be lengthened when the air cannot enter them, they collapse at the sides; and if they be shortened (as in expiration, owing to the pushing up of the diaphragm), they bulge outwards. This was precisely the condition in the case in question: when the patient inspired, the lungs were lengthened, and the walls of the chest fell inwards; when he expired, the lungs were shortened, and the walls of the chest moved forwards. Immediately after Mr. White had performed laryngotomy, the air entered the lungs freely, and all the conditions of respiration were reversed, the natural action being restored; and the walls of the chest, instead of falling backwards, advanced during inspiration: at the same time the lungs were no longer elongated; the chest became full, the face ruddy, and the countenance free from anxiety. This being an extreme case was a type of its class. Since observing this case, he (Dr. Sibson) had observed the walls of the chest to fall in during inspiration in many other cases; but in none to the same extent. Whenever there is great obstruction to respiration in the outer air-passages, as in croup, diseases of the larynx or fauces, the walls of the chest fall in, to a greater or less extent, in proportion to the degree of the obstruction and the flexibility of the ribs. The same phenomenon will be observed, also, if there be spasmodic closing or narrowing of the glottis; as in hiccough, laryngismus stridulus, or the fits of hysteria. If the obstruction to respiration diminish, the extent to which the walls of the chest fall in during inspiration will diminish from day to day. Thus, at first, the obstruction being very great, the whole of the sternum, and the cartilages and ribs to each side of it, may fall in; but when the obstruction becomes comparatively small, then only the lower end of the sternum may have a reversed motion. On the other hand, if the obstruction increases, the extent to which the sternum and ribs fall backwards during inspiration will increase progressively. If there be obstruction to the entrance of air into one of the large bronchial tubes, as from the lodgment of a foreign body, then the walls of the chest may fall in during inspiration over that portion of lung supplied with air through the obstructed bronchial tube. If there be obstruction to the entrance of air in the smaller bronchial tubes, as in bronchitis, vesicular emphysema, or hooping-cough, the walls of the chest may be forced backwards, during inspiration, over a portion of the lungs. In such cases, the reversed inspiratory movement is confined to the lower end of the sternum, and to the cartilages and ribs to each side of it. If the obstruction to respiration in the smaller bronchi be confined to one lung, then the reversed movement of the thoracic parietes will be confined to that side. Dr. Sibson had observed the walls of the chest to be forced backwards in some cases of effusion

into the pleura: the descent of the diaphragm in such cases causes the lengthening, and consequent collapse, of the sac containing the fluid. When the whole or a great part of one lung is incapable of expansion, owing to condensation, then the walls of the chest over the affected lung are usually forced inwards during inspiration: in such cases the respiratory movements of the ribs of the opposite side are exaggerated, and the lower end of the sternum is drawn over, at each inspiration, towards the unaffected side, and the ribs over the affected lung are in turn drawn over by the sternum, and they consequently fall in during inspiration. In two cases of fracture of rib with general emphysema, the side on which the rib was fractured was indicated by the sinking in of the walls of the chest during each inspiration. When there is extensive effusion into the pericardium, and when the heart is enlarged and adherent, the lower end of the sternum and the adjoining left costal cartilages may in some cases be forced backwards during inspiration. The yielding inwards of the sternum and ribs during inspiration is most marked in those whose cartilages are flexible; it therefore occurs most frequently in children and in young persons. Indeed, the inspiratory yielding of the walls of the chest is usually present in healthy infants, especially when they sob: in these, the chest flattens during inspiration, the lower end of the sternum receding; but in rickety infants the chest narrows and the sternum protrudes, the parietes being forced inwards at the junction of the ribs to the cartilages. The phenomenon is least marked, or is altogether absent, in those whose costal cartilages have become firm or bony; it is, consequently, seldom observed in the aged. It is very seldom that the four superior or thoracic ribs, or the four inferior or diaphragmatic ribs, fall inwards during inspiration, under the influence of obstructed respiration; the reversed respiratory movement being usually confined to the lower end of the sternum; and to the fifth, sixth, seventh, and eighth, or intermediate costal cartilages and ribs. When the form of the chest is normal, the lower end of the sternum and the adjoining cartilages present the phenomenon in question, but when the sternum is unusually prominent, then the ribs alone are forced inwards and the sternum protrudes. Dr. Sibson described a case in which, owing to disease of the cervical vertebræ involving the phrenic nerves, the diaphragm was paralysed, and in which, while the thoracic parietes advanced, the abdominal parietes shrunk inwards during inspiration; and concluded by referring to observations of the phenomenon in different instances, made by Haller and Lower; by Dr. Stokes and Dr. Williams, in emphysema; and by Dr. G. A. Rees, Dr. Snow, and Mr. Hird, in children; and by pointing out the practical value of the sign in question as an auxiliary in the diagnosis of diseases of the chest.

Case of Rupture of the Calcaneo-Scaphoid Ligament. By Mr. Nunn.

A lad, aged nineteen, "slipped up" whilst carrying a considerable weight. Swelling, great pain, and inability to rest the body upon the foot, followed. Five weeks after the accident, the time when the case first came under the care of Mr. Nunn, the swelling had in some measure abated, but the foot could scarcely touch the ground without producing intense pain. The arch of the foot was very much flattened, and the styloid process of the scaphoid bone could be detected more easily than in the sound foot, in spite of the swelling and thickening of the tissues. During six weeks, complete rest, iodine paint, pressure by strapping, with camphorated mercurial ointment, hot fomentations, placing the foot on a higher level than the rest of the body, had each a trial given them, without producing at all an encouraging amount of improvement: the exqusite tenderness of the sole of the foot remained unrelieved. After the failure of these remedial measures, Mr. Nunn subjected the foot to a course of rubbing, or rather kneading, with the balls of the thumbs. This treatment, although at first accompanied with severe suffering, produced, after a few weeks, most satisfactory results. The effusion disappeared, the morbid sensibility almost ceased, and the part was ultimately restored to its proper office. Mr. Nunn said, that he considered the great tenderness to have arisen from the effused lymph having imbedded the nerves in a solid medium, and that thereby any pressure, however slight, was immediately transmitted to them, instead of being warded off, as in a healthy condition of parts, by the highly elastic pad of fat and muscle by which the nerves were protected. Mr. Nunn's explanation of the success of the treatment was, "that by means of the strong friction and kneading the more deeply-seated vessels were stimulated to increased, and, at the same time, healthy action."

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 6th December, 1849:—Richard Lee, Thame, Oxon—John Alfred Bateman, Shadwell.

Correspondence.

REMARKS ON THE SO-CALLED CHOLERA BODIES.

SIR,—My name having been frequently brought forward in connection with the bodies found in the evacuations of patients suffering from cholera, and supposed to be peculiar to this disease—and latterly, my view of the nature of one division of them having been criticised and objected to—I feel called upon to make a few remarks on the subject.

Regarding the relation of these bodies to cholera, the report of the Cholera sub-committee of the Royal College of Physicians expresses perfectly, in my opinion, the conclusion at which every one must arrive who is capable of forming an unbiassed opinion upon the subject. The question has, I believe, entirely lost all interest in this point of view. Still, the identification of the various kinds of bodies, and the source of the delusion that they were different stages of one and the same entity, is worth consideration.

The supposed "cholera bodies" are of three principal kinds:—1st. those derived from the chalk; 2d. the structureless discs; 3d. the supposed uredo.

Chemical and microscopical characters of these bodies, amply sufficient for distinguishing them from each other, are given in the report alluded to; so that no further observations are necessary on this head.

The remarks which have been made regarding the non-depolarization of light by the first of these bodies, and their being found in cases where no chalk has been taken internally, arise, doubtless, from an insufficient combination of chemistry with microscopy; in which respect the original papers of the discoverers of the supposed "cholera bodies" are peculiarly characteristic. I can only say, in regard to the first point, that in my hands opposite results have been obtained, and can only conceive any others to have arisen from the bodies not having been mounted in the ordinary and proper manner for exhibiting their action upon polarized light. In respect to the second point, the investigations of numerous experimenters is totally at variance with those of the author alluded to, whose chemical re-agents have probably been used too sparingly, and who has trusted too much to the mere microscopic appearance, which is of no value.

Prior to the publication of the results obtained by the Bristol investigators, I had carefully examined the evacuations of cholera patients, both chemically and microscopically, but had arrived at the conclusion that they contained no bodies which could be considered as peculiar. These patients were all such as had either been seized suddenly, whilst apparently in health, or had taken no medicine for the premonitory diarrhœa.

The second kind of bodies, or the structureless discs, bear no resemblance whatever to the former, and it is inconceivable to me how they could have been considered as advanced stages of them.

The large brownish bodies, which have been supposed to consist of uredos, and which have been added to the list by one author only, forming no part of the original series, have at last been transmitted to a gentleman whose conclusion must be considered final in a question relating to fungi; and I have great pleasure in transmitting to the Editor of the MEDICAL GAZETTE a letter upon the subject, which he kindly wrote after my solicitation.

One circumstance alone appears to me sufficient to prove that the thick discoidal bodies are not earlier stages of development of the larger supposed uredos: it is, that the former are met with as large, nay sometimes much larger, than the latter, the appearance and composition being at the same time totally different.

Regarding the authenticity of the so-called "cholera bodies" which I have examined, the larger supposed uredos were obtained indirectly from Dr. Swayne, and the other two kinds, exhibiting the depolarization of light, &c., indirectly from Dr. Brittan. I must also acknowledge the kindness of Dr. Baly, in pointing out to me the two latter kinds, which had been demonstrated by Dr. Brittan to him as the supposed "cholera bodies." No sooner were these bodies subjected to the appropriate treatment, than the foundations of the theory which was implied, if not asserted, gave way.

Ehrenberg's remarks upon the minute bodies found in the chalk may, perhaps, prove interesting to the reader. They are translated from the Transactions of the Royal Academy of Sciences of Berlin, for 1838.* "In a memoir published in the Transactions of the Academy for 1837, I discovered that the predominating cementing material of the chalk consisted of elliptical flat granular bodies and their fragments. I then considered them, as I am still inclined to do, as a concretion or formation analogous to that of crystalline, the forms of which are peculiar to the chalk." He adds, in a note:—"In addition to true crystallization, we find in nature a far more generally distributed and very predominant regular concretion of inorganic matter, regarding which a communication was made to the Academy

* Abhandlung der königl. Akademie der Wissensch. zu Berlin, 1838.

as early as 1836, and which I shall denominate a crystalloid formation, inasmuch as it must be based upon definite innate laws, since its products appear in the most regular forms, which, however, never present facets. The Egyptian eye-stone and spectacle-stone (varieties of agate and jasper), as also the frequently wonderful forms met with in the calcareous formations of argillaceous deposits, belong to this series. Continued investigations even render it probable that this regular concretion of inorganic matter precedes all *slow* crystallization, and for the most part, but not entirely, is the cause of the granular state of solid and hard inorganic masses."

Figures of these crystalloids are given by Ehrenberg in the memoir alluded to. I have, however, met with two distinct forms in chalk, chalk mixture, cholera evacuations, &c.: one consisting of true rings, which is the form figured by Ehrenberg, also by the Rev. Mr. Reade, in Mantell's Geology; a second with a true centre,—this is not figured in either of the above works. Both are represented in Fig. 11 of the College Report. The action of polarized light upon these two bodies varies in each case.

The cause of the error in supposing that these various bodies constituted different stages of development of the same entity, is to be found in the circumstance that the growth of the stages into each other were not followed by experiment, but only imagined to ensue,—a mode of proceeding always liable to error in inexperienced hands.—I am, sir,

Your obedient servant,

J. W. Griffith, M.D. F.L.S.

9, St. John's Square,
Dec. 4, 1849.

ON THE LARGER CELLS OBSERVED IN CHOLERA EVACUATIONS BY J. G. SWAYNE, ESQ., M.D., DR. BUDD, AND OTHERS. BY THE REV. M. J. BERKELEY, M.A. F.L.S.

It is not my intention to enter at all into the controversy which has lately arisen respecting the origin of cholera; but as specimens of the different bodies detected in cholera evacuations have been submitted to me by persons entertaining very different views on the matter, I conceive that it may not be considered intrusive if I offer a very few words on the subject. I assume that all parties are now pretty well agreed that the identity of the cells or cell-like bodies discovered under various circumstances, and in various media, must be given up. There can be no doubt that bodies of very different characters occur, resembling each other more or less externally, but very distinct in origin and in chemical composition. Some of these are mineral, some either parts of vegetables, or really spores of fungi, and some again portions of animal tissues more or less perfect or decomposed. Portions of spiral vessels may be detected in any sample of the Aromatic confection exhibiting entire or broken rings and spirals mixed up with the bodies peculiar to chalk and vegetable cells; and that many of these bodies would remain uninjured in the evacuations of persons affected with cholera, cannot be doubted. I have reason, however, to believe, that by the word annular bodies, real rings or parts of rings were not so much intended as cells presenting a ring-like outline. The rings may in some cases have been confounded with the cells, but it is the latter that were recorded as the early stage of growth of the larger bodies to be noticed presently. No evidence was, however, given of the identity of such cells by accurate measurement, or by germination, or, indeed, in the first instance, by any nicely conducted chemical tests; and it is now not only very clear that the cells are not identical, but there is little or no reason, especially when the matter is considered with reference to what is known of the growth of fungi, to believe, if they be considered of fungal origin, that the smaller bodies have in any instance a positive connection with the larger ones, though it will be admitted that bodies do occur, and sometimes in great abundance, which have at least a very close resemblance to the reproductive organs of fungi, whatever their real nature may be. A specimen of cholera evacuation transmitted to me several weeks since, by Mr. H. O. Stephens, of Bristol, abounded in such cells, which were most clearly organic, though I could not satisfy myself as to their exact nature. In this specimen I could detect none of the larger bodies, though I have seen them since accompanied by the smaller cells, and very recently, in a specimen from Bridgewater, kindly communicated by Dr. Swayne. I have had a fluid under examination abounding with the larger bodies, but quite destitute of the smaller, and teeming with twin obversely conical bodies, which are said to be oxalate of lime.

The nature of these larger bodies is very doubtful. The conclusion that they are identical with the spores of Uredo segetum (or rather of Uredo caries, which is the species really meant) is incorrect. The mean size of the spores of Uredo caries, as ascertained by Messrs. Tulasne, is 0.0176 of a millimeter, which gives 0.00068 of an English inch. The larger bodies of cholera evacuations vary much in size. My own measurements give 0·0035 of an inch as the mean of the axis major of their elliptic outline; so that they are 5·14 times longer.* Besides which, the cholera bodies are constantly elliptic, and only

* Dr. Swayne's figures in the *Lancet*, 1849, p 532, make the proportion rather less.

globose when seen in the direction of their apices; whereas the spores of bunt, except in infancy, are always globose, and very uniform in size. Indeed, I am not acquainted with any uredo, taking the term in its most general sense, where spores resemble the bodies in question, nor do I know anything amongst fungi of precisely the same character, though there is a certain resemblance in them to the spores of some truffles. The bodies, then, are elliptic, of a brownish hue, presenting sometimes a uniform slightly tuberculatedness, without any distinct nucleus; but more frequently there is a distinct coat to the cells, consisting of several layers, the cavity being either entirely filled with a grumous mass, or more frequently occupied by one or two distinct more or less globose nuclei, which are in their turn occasionally invested with a distinct transparent smooth coat. In some individuals the tubercles are connected by raised ribs, so as to present a reticulated appearance; and I have one mounted specimen in which the ribs are very strongly developed, and project very much from the surface, though in general the reticulation is faint, and requires a nice adjustment of light to be seen satisfactorily. These different states resemble strongly the sporidia of the genera Genea and Tuber, though, besides size, there are certain evident differences, especially the stratose epispore. It would be saying too much to assert that an epispore consisting of several distinct layers is never found in fungi, but it is at least very rare, and even in the very few supposed exceptions requiring confirmation. In general there is merely the outer cell, and the inner membrane which encloses the endochrome. It would appear that this inner membrane has very rarely a thin lining, which, when the endochrome contracts, contracts with it. The most marked instance of a stratose epispore is in Myxosporium puniceum, Corda; but I believe this to be of animal origin, and perhaps is nothing more than the eggs of some Clausilia. The specimen I have examined does not appear to me to belong to fungi, nor do I think that it is an Alga.* There is another very rare circumstance about the cholera bodies; namely, that the nucleus itself acquires a coat. This, again, may not be absolutely without example, but it is of very rare occurrence; and the two circumstances concurring in the same individual are very strongly against the fungous origin of these bodies. There is another genus whose spores bear a certain resemblance to these,—Artotrogus, Montagne, of which a figure will be found in my Memoir on the Potato Disease, in the first volume of the Journal of the Horticultural Society of London: but the resemblance is far from perfect, speaking even generically, and no species of the genus is known with spores exactly resembling the cholera bodies. My own impression is, that they do not belong to any fungus, and though something might be said as to their resemblance to the spores of some algæ, I do not know any to which they could with the slightest probability be referred.

It should be observed, too, that the mode of reproduction supposed by the original observers of these bodies is quite at variance with any thing recorded in fungi. If the bodies were sporangia they might then contain reproductive cells, though I have observed nothing of the kind. But supposing this to be the case, they must produce some mycelium previous to the reproduction of sporangia. The notion that the lesser bodies are gradually developed into the larger without any intermediate stage, is quite contrary to every notion of fungi, though it might be consistent enough with what is observed in algæ. Spores, indeed, after their detachment from their sporophores, frequently grow and acquire a more complicated epispore, as in the case of scleroderma and other genera, but a spore never produces a new mother cell in fungi without germination; and, possibly, when the intimate structure of the lower algæ is completely ascertained, many apparent exceptions will disappear.

The best test of the real nature of the cholera bodies would be their germination; but unfortunately circumstances prevented my making any experiment, and the season is not very favourable for such researches. The simplest way is to place a small drop of the fluid, containing one or more of the bodies, diluted with a little water, upon a slip of glass. This is to be covered with a plate of thin glass, taking care that when the upper plate is luted with wax to the larger and lower slip, there shall be a little air between the drop of fluid and the margin into which the bodies may germinate. Especial care must be taken that the positive connection of any mucedinous threads which may be given off by the fluid with the bodies is accurately ascertained, and the growth observed till the threads bear fruit. A negative result would leave the matter where it is, as even under circumstances apparently the most favourable the spores of fungi will not always germinate. Care, meanwhile, should be taken to ascertain, by means of sure chemical tests, whether the bodies are of an animal or vegetable nature. But even should it be decided in favour of the former view, it will still remain to discover what they are, as it should seem that no ova of entozoa are known which can be

* The second supposed species is merely an imperfect Trichia.

reconciled with them, and there is no reason to believe that they are an altered form of any tissue of the human frame. The bodies certainly do not exist in all cholera evacuations, and M. Follin, who has examined with great diligence the matters vomited or evacuated by cholera patients, has discovered nothing at all resembling them,* as was the case with Messrs. Andral and Gluge in 1832.

OUT-PATIENTS AT PUBLIC HOSPITALS.

Sir,—Mr. Hodgson has very ably brought before the notice of the profession, one of the greatest abuses existing at all our public hospitals and charities, in consequence of the indiscriminate admission of out-patients who are able to pay the surgeon for his advice. He also points to the Royal Ophthalmic Hospital, Moorfields, as affording a good illustration, and says he knows that one-half can afford the fee.

The Committee have done all in their power to put a stop to the evil, by inserting in the out-patients' letters "Royal London Ophthalmic Hospital for the really Indigent Poor," in large letters, and have likewise given directions to the medical officers to inquire into the circumstances of any party applying for advice, if they have reason to suspect that they have ample means of paying; but in the great majority of instances I am afraid they plead poverty falsely. If the system of questioning patients was strictly adhered to by all the medical officers, the numbers would, I doubt not, be sensibly diminished.

I find that, during last year, upwards of 8000 patients were admitted to the benefits of this Charity. Now, if half of these can afford to pay, taking into consideration the number of visits each person would have to make to the surgeon before the cure was complete, and also the number of operations which would be required out of 4000 cases, the sum lost by the medical officers must be enormous.

I am very much afraid that there is no remedy for the evil, and that Mr. Hodgson's suggestion would be of little use, as persons who would stoop to borrow their servants' bonnets and shawls, or plead poverty falsely, would soon supply themselves with the required recommendation of a clergyman or a medical man.—I remain, sir,

Your obedient servant,

Patronus.

December, 1849..

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* Comptes Rendus des Séances, et Mémoires de la Societé de Biologie, pendant l'Année 1849. No. iii. Mars, p. 48.

Medical Intelligence.

UNIVERSITY OF LONDON.

M.D. SECOND EXAMINATION.—1849.

PASS EXAMINATION.

Monday, Nov. 5.—Morning, 10 to 1.

Physiology.

Examiner, Dr. Carpenter.

1. Describe the principal forms presented by the *Stomach* in the following classes of Animals:—Zoophytes, Insects, Birds, and Mammalia;—with their respective adaptations to different kinds of nutriment.

2. What appear to be the relative functions of the Absorbent and Sanguiferous vessels in the *Absorption* of nutritive and other substances from the alimentary canal; what difference exists in this respect between Vertebrated and Invertebrated Animals; and how far may the act of Absorption be explained on physical principles?

3. Describe the relation of the *respiratory* to the *general* Circulation in Mollusca, Insects, Fishes, Reptiles, Birds, and Mammals.

4. Give a general account of the mode in which Vital Action is influenced by *Heat;* illustrating it by examples drawn from cold-blooded animals, and from warm-blooded animals in the states of hybernation and starvation.

5. What are the principal functions of the *Spinal Cord* (including the Medulla Oblongata) of Vertebrated animals; and what parts of the Nervous System of Articulata and Mollusca are its equivalents?

6. Describe the principal phases in the development of the *Circulating System* of the Mammalian fœtus, from the first appearance of blood-vessels in the ovum to the time of birth; and state how far these may be regarded as corresponding with the permanent conditions of the vascular system in the lower classes of animals.

Afternoon, 3 to 6.

General Pathology, General Therapeutics, and Hygiène—Celsus de Re Medicâ.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the process of suppuration, including an account of the various modes in which purulent formations take place.

2. Sketch the indications to be kept in view in the treatment of organic diseases of the heart.

3. Mention the more striking facts that have been adduced for and against the abolition of quarantine restrictions. State your own views of this question.

4. Translate the following passage into English:—

At imbecillis (quo in numero magna pars urbanorum, omnesque penè cupidi litterarum sunt,) observatio major necessaria est; ut, quod vel corporis vel loci vel studii ratio detrahit, cura restituat. Ex his igitur qui benè concoxit, manè totò surget; qui parum, quiescere debet; et, si manè surgendi necessitas fuerit, redormire: qui non concoxit, ex toto conquiescere; ac neque labori se, neque exercitationi, neque negotiis, credere. Qui crudum sine præcordiorum dolore ructat, is ex intervallo aquam frigidam bibere; et se nihilo minùs continere. Habitare verò ædificio lucido, perflatum æstivum, hibernum solem habente; cavere meridianum solem, matutinum et vespertinum frigus; itemque auras fluminum atque stagnoram; minimèque, nubilo cœlo, soli aperienti se committere; ne modò frigus modò calor moveat: quæ res maximè gravedines destillationesque concitat. Magis verò gravibus locis ista servanda sunt, in quibus etiam pestilentiam faciunt. Scire autem licet integrum corpus esse, quùm quotidiè mane urina alba, dein rufa est: illud concoquere, hoc concoxisse significat. Ubi experrectus est alequis, paulùm intermittere; deindè nisi hiems est, fovere os multâ aquâ frigidâ debet: longis diebus meridiari potiùs ante cibum; sin minùs, post eum. Per hiemen potissimùm totis noctibus conquiescere: sin lucubrandum est, non post cibum id facere, sed post concoctionem.

Tuesday, Nov. 6.—Morning, 10 to 1.

Surgery.

Examiners, Sir Stephen L. Hammick and Mr. Cæsar Hawkins.

1. Give the different varieties of both simple and compound fractures of the Patella; describe the surgical anatomy of the parts connected with such injuries; and then give the mode of treatment, both locally and generally, of the various fractures of the Patella; pointing out such compound fractures of this bone, and such injuries of the knee-joint, connected with them, as may require either the immediate or the more remote amputation of the limb.

2. What is an Inguinal Hernia? How does an oblique Inguinal Hernia differ from a direct one in its relations to the Epigastric Artery and Spermatic Cord? Give the contents of the Hernial Sac, with the various conditions in which they may be found. Detail the symptoms and mode of treatment of an oblique Strangulated Hernia; and when an operation is required, give the mode of performing it, with the subsequent management of the patient, under favourable or dangerous symptoms.

3. What are the different causes of an Inflammation of the Tibia, which may end in abscess, caries, or necrosis of this bone? Trace the symptoms, treatment, and effects of each of these varieties of Tibial disease through their several stages, from their commencement in inflammation up to a favourable or unfavourable issue of the abscess, caries, or necrosis, as the case may be.

Afternoon, 3 to 6.

Medicine.

Examiners, Dr. Billing and Dr. Tweedie.

1. Mention the situations in which intracranial hæmorrhage may take place. When the hæmorrhage occurs in the cerebral tissue, describe the progressive changes which take place during the process of reparation.

2. Mention the diseases in which general blood-letting is indicated as a curative measure. Describe the circumstances by which it should be regulated. Sketch the consequences, immediate and remote, which may arise from undue or excessive loss of blood, spontaneous or artificial.

3. Describe the anatomical characters, physical signs, and results of inflammation of the pleura.

4. What are the pathological causes of diarrhœa? What are the indications to be kept in view in the treatment?

5. Describe the symptoms, causes, and treatment of gastric remittent fever.

6. Enumerate the vesicular diseases of the skin. Sketch the diagnostic characters, forms, and treatment of eczema.

Wednesday, Nov. 7.—Morning, 10 to 1.

Midwifery.

Examiner, Dr. Rigby.

1. Describe the ordinary derangements of health connected with pregnancy, and their treatment.

2. Enumerate the changes in the breast produced by pregnancy.

3. What are the indications of commencing labour?

4. What are the symptoms, &c., during labour which would lead you to the conclusion that the pelvis is contracted in its antero-posterior diameter?

Afternoon, 3 to 6.

Forensic Medicine.

Examiners, Prof. Brande, Dr. Pereira, and Dr. Rigby.

1. What are the tests for the detection of Meconate of Morphia? To what fallacies are those tests respectively liable? How would you prove the presence of Opium in Porter?

2. A question arises respecting the wholesomeness of water pumped from a well in the vicinity of a church-yard. What peculiar salts, or other substances, should you expect to find in such water? Upon what

would you found an opinion as to its being prejudicial to health?

3. A man was attacked with cholera: he had vomiting and purging, with threatening collapse. A grain of opium, and the like quantity of calomel, were administered to him every two hours. After four doses he was found in a state of collapse with stupor: the pupils were natural, the respiration quick and short. The question arises whether the stupor was the result of the cholera or of the opium. You are required to state your opinion of the cause of the stupor, and the grounds on which you form it.

4. What do you consider to be a poisonous dose of *Lobelia inflata?* What are the symptoms of poisoning by this substance, and the most appropriate treatment?

5. A stout dark-complexioned woman of middle age is convicted of a capital crime, and pleads pregnancy in arrest of judgment, which has been confirmed by a jury of matrons. Circumstances having tended to throw a doubt on this decision, your opinion is requested. The abdomen is increased in size by a solid swelling, which is pretty evidently the uterus. She declares that she feels the movements of the child, that she has milk in her breasts, and that a slight show only has appeared once or twice during her pregnancy. The os uteri feels closed, the cervix short—both feel hard; and the inferior segment of the uterus, as far as your finger can reach, is hard and much enlarged. The breasts are large, and the areolæ dark—is she pregnant, or is she not?

[To be continued.]

FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS. QUESTIONS TO CANDIDATES.

THE following were the questions in anatomy and physiology submitted at the recent examination to the senior candidates (members of eight years' standing and upwards), viz.:—

1. Describe the structure of the knee-joint, the movements which it is capable of performing, and the muscles by which these motions are effected.

2. Describe the use of the several valves of the heart, the order in which the auricles and ventricles contract and dilate, and the state of the heart when its pulsation is felt on applying the hand to the exterior of the chest.

3. Describe the diaphragm and other muscles employed in respiration; and describe their agency in the respiratory process.

4. Describe the course of the urethra, its dilatations and contractions, its structure, and the parts which surround it or are in its immediate vicinity.

5. Describe the differences of form and structure in the intestinal canal, and the functions attributed to its different parts.

6. Describe the changes which take place in the air received into the lungs, and in the blood circulating through the pulmonary capillaries during respiration.

The following are copies of the questions submitted on the same subjects as the above, to the junior candidates, viz.:—

1. Describe minutely the structure of the lungs, especially that of the air-tubes and air-cells, and the relation of the latter to the pulmonary capillaries. Describe also the movements, both in the lungs and in the parietes of the chest, which concur in order to effect the change of air in respiration.

2. Describe the ordinary chemical changes which occur during breathing in the blood and air, and the variations in those changes which do not imply a deviation from health. State, also, the connection of these changes with the temperature of the body, and with the maintenance of an uniformity of temperature in man and other warm-blooded animals.

3. Describe the movements of the heart, and explain the causes and conditions under which they are produced. State, also, the influence which the nervous system may be supposed to exert on the movements of the heart, both on those which are regular and ordinary, and on those which are irregular and occasional.

4. Describe the structure of the medulla oblongata, the connection of its columns and fasciculi with the cerebrum, cerebellum, and spinal cord, and the origin of the nerves which proceed from it.

5. Describe the functions of the medulla oblongata, and of the nerves which proceed from it.

6. Enumerate the muscles which serve to erect the body and to maintain it in the upright posture, and the action of these muscles when so engaged. Describe also the action of the muscles which are especially exerted to balance the body in standing on one leg, and at the same time on tip-toe.

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate and adequate.*

The following questions in surgery were submitted to the senior candidates on the 6th instant, viz.:—

Pathology and Surgery, No. 1.

1. In the two forms of erysipelas, simple and phlegmonous, what are respectively the principal symptoms; what the course and termination; and what the treatment constitutional and local?

2. What is the treatment to be adopted in a case of wound of the brachial artery occurring in venesection?

3. Describe the treatment of retention of urine from stricture in the urethra, and the

consequences which are to be apprehended when the retention is not relieved.

4. Describe the progress of a carbuncle from its commencement to its termination, when not arrested by treatment. Describe also the treatment, both constitutional and local, by which its progress may be arrested.

5. Describe the characters of dislocations of the shoulder-joint, and the modes of reduction.

6. What is the effect of opium on the system? What are the principal preparations which are in use? And what are the doses of each?

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate and adequate.*

The following questions were submitted, on the same occasion, to the junior candidates, viz.:—

Pathology and Surgery, No. 2.

1. Describe the nature and physiological consequences of asphyxia, its causes, especially those depending upon irrespirable gases, and the more important remedial measures required.

2. State what is known with regard to the pathological changes in the blood.

3. Describe the principal varieties of the pulse, and in what respect they may be severally regarded as diagnostic of morbid conditions of the system.

4. Describe the morbid changes which take place in the urinary organs from long-continued irritation of the bladder or urethra; and explain in detail the causes of such changes.

5. Describe the different methods by which a calculus may be removed from the bladder, and what the circumstances under which they may be severally indicated.

6. Describe the various circumstances of surgical interest which attend a case of wounded intestine.

N.B. Answers to any four of these questions will be accepted as sufficient, provided always that they are *accurate and adequate.*

ELECTION OF FELLOWS BY EXAMINATION AT THE ROYAL COLLEGE OF SURGEONS.

The following gentlemen, being members of this institution, having undergone the necessary examinations, were admitted Fellows of the College, at the meeting of the Council, on the 7th instant:—Messrs. Walter Goodyer Barker, Worthing, diploma dated October 25, 1839; Frederick John Butler, Winchester, May 8, 1840; George Washbourne Charleton, Gloucester, July 3, 1835; William Druitt, Wimborne Minster, Dorsetshire, July 30, 1841; Nathaniel John Dampier, Woburn Place, Russell Square, May 24, 1844; Tharp Mountain Girdlestone, Lincoln's Inn Fields, January 3, 1845; George William Hind, Alfred Place, Bedford Square, November 3, 1827; Raymond Levi Haynes, Holloway, March 5, 1841; Richard Hodges, Rochford, Essex, July 31, 1843; Edward Charles Hulme, Maisonette, Totness, Devon, April 12, 1844; Robert George Mager, Highgate, May 15, 1829; Edwin Morris, Spalding, Lincolnshire, April 22, 1839; John Marshall, Crescent Place, Mornington Crescent, August 9, 1844; William Potts, South Audley Street, May 3, 1839; Augustin Prichard, Red Lodge, Bristol, October 30, 1840; Edward Ray, Dulwich, Surrey, April 5, 1839; Ebenezer Smith, Billiter Square, March 18, 1831; George Carrick Steel, Chadwell Street, Islington, July 3, 1840; Henry Smith, Caroline Street, Bedford Square, April 24, 1846; John Wiblin, Southampton, June 2, 1837; and Thomas Henry Wakley, Guildford Street, Russell Square, July 25, 1845.

DEATHS FROM CHOLERA IN PARIS AND LONDON IN 1849.

It is stated from official sources that the 10,950 deaths from cholera in the French capital were thus distributed:—In March, 130 deaths; in April, 694; in May, 2,426; in June, 5,769; in July, 419; in August, 810; in September, 670; and in October, 32 only. To these deaths must be added those which took place in the civil and military hospitals, which make a grand total of 20,000 deaths—the debt by Paris to the cholera morbus in the year 1849. This is nearly a third more than the deaths caused by the epidemic in 1832. Of all the arrondissements of Paris the one most fatally visited was the 12th (the quartier Mouffetard, of the Jardin des Plantes), one of the most populous and most distressed. The arrondissement most spared by the malady was the 2nd—the richest and most important. Such facts prove better than all arguments the power of medicine, and the advantages of a prosperous and comfortable social condition.

It may be interesting to contrast this official statement with the monthly deaths in London from this disease. The deaths from cholera in March, 1849, were 38; in April, 9; in May, 22; in June, 195; in July, 1,952; in August, 4,251; in September, 6,644; in October, 444; and in November, 27. The most fatal month in Paris was June, and in London September.

JUDICIAL OPINION OF SCIENTIFC TESTIMONY.

At a trial which took place in the Court of Exchequer on Monday last, a tailor sought to recover damages for the obstruction of free access of "light and air" to his dwelling-

house and workshop. The alleged damage was caused by the erection of a new building, the Army and Navy Club.

The facts were in favour of the alleged obstruction; but the scientific testimony, which was adverse to this view, consisted of opinions from which it was argued the plaintiff and his men ought to be able to see and breathe in spite of the new erection. It was contended from the evidence of two scientific witnesses, who it appears had not been into the darkened room, that it was utterly impossible for any diminution of light to have arisen, upon the ground that the light could still reach the lower portion of the building at an angle of 45°. The tailor and his men appear to have founded their judgment most absurdly, not upon the angular incidence of light, but whether they could see to read and write in the centre of the room, and try on the coats of their customers as heretofore! They found, however, that they were now obliged to go close to the windows in order to get the full benefit of the angle of forty-five degrees.

The learned judge, in charging the jury upon this conflicting evidence, said—"It was a circumstance to be deplored that in nearly every case where the evidence of professional gentlemen was put in requisition, such contrary statements should be made; and he must say, that where that wide difference arose, it was likely in no very small degree to take away that confidence in their evidence, with which it would, under other circumstances, be received." He left the jury to decide from the practical experience or the scientific theory. They preferred the latter, and gave their verdict for the defendants; thus deciding that the plaintiff was a sentimental grumbler, and that whether he can see to try on coats or not, or read the small type of the *Times* without going close to the window, he ought to be satisfied in being supplied with light at an angle of 45°.

As to the conflict of scientific testimony there is a plain and obvious remedy. If our Common law courts would only adopt the practice of the Admiralty court, and summon competent men as assessors, instead of allowing the witnesses to be *selected* by plaintiff and defendant, the objection would vanish. No running-down case on the river or at sea could ever be decided by an Admiralty judge, if the Masters of the Trinity House, instead of acting as independent judges, were required to give their opinions as *selected* witnesses.

ROYAL SOCIETY.

The subjoined is a list of the officers of this Society, elected at the late anniversary meeting. It is what is called the House List:—*President*—the Earl of Rosse.—*Treasurer*—George Rennie, Esq.—*Secretaries*—Samuel Hunter Christie, Esq., M.A.; Thomas Bell, Esq.—*Foreign Secretary*—Lieut.-Col. Edward Sabine, R.A.—*Other members of the Council—John Couch Adams, Esq., M.A.; John Joseph Bennett, Esq.; Sir Benjamin Collins Brodie, Bart.; Charles Darwin, Esq., M.A.; John Forbes, M.D.;* William Robert Grove, Esq., M.A.; Leonard Horner, Esq.; *Gideon Algernon Mantell, Esq. LL.D.*; William Allen Miller, M.D.; *Rev. Henry Moseley, M.A.*; *Sir Roderick Impey Murchison, M.A.*: Richard Owen, Esq.; *Right Hon. Sir Frederick Pollock, M.A.*; *Lieut.-Col. William Reid, R.E.*; Peter Mark Roget, M.D.; Charles Wheatstone, Esq.

The Fellows whose names are printed in Italics were not members of the last Council.

OBITUARY.

At his residence, 16, Park Walk, Chelsea, Matthew Heir, Esq., late Surgeon to the 66th Foot, in the 73rd year of his age.

On Monday morning, the 10th instant, at 21, Brook Street Grosvenor Square, London, Robert M'Lean, Esq., Surgeon, R.N., of the Borlick, Aberfeldy.

Selections from Journals.

ON THE MODE IN WHICH PHOSPHATE AND CARBONATE OF LIME ARE CONVEYED INTO THE ORGANS OF PLANTS; AND ON THE INFLUENCE WHICH THESE SALTS EXERCISE ON VEGETATION.

M. J. L. Lassaigne observes that it has been long known that the alkaline and earthy salts which are found in the ashes of plants are derived from the soil on which they grow, and that manures contribute various gaseous compounds and fixed bodies necessary to vegetation; that water also is no less necessary, since except the roots of plants be kept moist they cannot extract from the earth some of the substances which they appropriate to assimilation. Théodore de Saussure showed, by a series of interest ng experiments, that various neutral, alkaline, earthy, and metallic salts in solution were absorbed unequally by the roots of plants. As the soil contains under certain circumstances many soluble neutral salts, we can understand how, by rain, dew, &c., they may be conveyed into the vegetable organism. But with regard to the various insoluble salts which are found in their structure, it is most likely that they are in some way rendered soluble before they can be absorbed, though the verification hereof was still wanting as to certain insoluble calcareous salts which are carried by the sap and fixed in the organs of plants.

Many facts have established the influence of the earthy phosphates of the cereal grasses: according to Liebig, they cannot arrive at maturity without the presence of these salts; and, according to M. Gasparin, one of the most distinguished writers on agriculture, the earthy phosphates are always present in the lands where they grow; what is thus abstracted being annually restored by animal manures, the benefit of which, especially of bone manure, is thus explained by the influence of earthy phosphates on vegetation. M. Lassaigne's object, in the memoir presented to the Academy of Medicine, of which we here present our readers an abstract, has been to give the result of a series of experiments in which he has been engaged during the past year, with a view to determine the channel by which these mineral elements are transmitted to vegetable structure.

This inquiry M. Lassaigne has followed out in the following researches:—1st. whether basic phosphate of lime, as it exists in the bones of animals, can be dissolved in water charged with carbonic acid; 2d. the proportion in which it is soluble; 3d. whether this solution is favourable or unfavourable to germination and growth of the *cereales;* 4th and lastly, whether this same phosphate can be detected in different parts of the full grown plant.

Experiments.—*Phosphate of lime is soluble, at ordinary temperature, in water saturated with carbonic acid.*

This proposition, which has been demonstrated by direct experiment by M. Lassaigne, was advanced by Dumas some years before M. de Gasparin asserted it theoretically. Towards the end of 1846, about the time that Dumas commenced his researches on this subject, M. Lassaigne announced to the Academy of Sciences, that water saturated with carbonic acid at the temperature of F. 50°, and under the mean pressure of the atmosphere, dissolves the phosphate of bones in the proportion of $\frac{75}{100000}$ of its weight. He showed, also, that this solution was decomposed by heat, and the basic salt separated by saturating the carbonic acid with carbonate of potash or ammonia. He found that a solution of bicarbonate of lime in water dissolved the phosphatic basis, though in very minute quantity. Having established this fact, he experimented upon bones, both broken and partially decomposed by having remained a long time buried in the ground, and found, when broken into small pieces, that digestion for from eight to ten hours in water charged with carbonic acid abstracted a certain portion of their carbonate and phosphate of lime. When powdered, even coarsely, a much larger quantity was dissolved. The carbonate of lime thus dissolved held nearly the same proportion to the phosphate of lime as Berzelius found to exist in bone.

As a result of these experiments, M. Lassaigne considers it established that the calcareous salts which enter into the composition of bone, may, in consequence of their decomposition in the bosom of the earth, become dissolved by aid of the infiltration of rain-water, and by reason of the free carbonic acid thereby conveyed to them.

Second experiment. — The preceding facts lead to the investigation of the influence on germination and vegetation, of this solution of carbonate and phosphate of lime in carbonic acid. This question possesses considerable interest and importance, both in a physiological and agricultural point of view.

1st. M. Lassaigne sowed four grains of fine wheat of the harvest of 1846, in two glass vessels each having a capacity of about seventy-eight square inches, and each containing nearly eight ounces of siliceous sand, purified by washing in hydrochloric acid. The sand in each vessel was watered; the one with water charged with carbonic acid, the other with the same water, holding in solution phosphate and carbonate of lime, xtracted from bones disintegrated by decomposition in the earth.

2nd. The two glass jars were placed in a porcelain trough, covered with a crystal bell, capable of holding about fourteen pints, in order to protect them from the dust floating in the air. This apparatus was placed on a wooden stand near a window, so as to be exposed to the light of the sun: the surrounding air being kept at a temperature of 50° to 60° Fahr. The grains of wheat all germinated in less than two days, and the plumule became developed, as in the open air, into two leaves of a bright green colour, and increased in size rather rapidly under these conditions. The growth of the grains watered with the solution of calcareous salts was more rapid than of those watered with solution of carbonic acid only. The leaves furnished by the former were larger, of a deeper colour, and generally more fully developed than those of the latter; but in twenty-five days after germination, vegetation languished in these abnormal conditions, the leaves acquired a yellowish tinge at their extremities; this change in colour being gradually extended to nearly the whole limb. At this time the height of the stem from the grains sown in the sand moistened with carbonic acid was, on the average, nearly two inches, while the average height of the plants grown in the solution of calcareous salts was nearly three, or one-third more than that of the former.

As at this point these little plants seemed

to be suffering, the experiment was arrested: they were taken up by the roots, washed to free them from adhering sand, and then dried in a steam bath. The plants grown in the calcareous solution, when completely desiccated, had an average weight of about three grains, while those grown in carbonic acid had an average of two grains and a half. Thus both the height and weight of the plants were different under the two conditions which have been stated, the difference being clearly in favour of the grain sown and developed in sand watered with the solution of calcareous salts of bones.

A third set of experiments gave precisely the same results.

M. Lassaigne then proceeds to determine by experiment whether these earthy salts had been absorbed during vegetation into the structure of the plants. With this view he separately incinerated each stem, after having first dried it in a platinum capsule. The ashes obtained from the plants grown in the solution of the calcareous phosphates were five times as much as those obtained from the corn grown in solution of carbonic acid alone. Phosphate and a small quantity of carbonate of lime were found in the ashes of the first, while in those of the second they were only detected in the minutest quantities.

The results obtained by these experiments, by demonstrating the influence of carbonic acid in dissolving bone earth, serve to explain the mode of action of certain manures. It is thus shown, that besides the various gaseous bodies disengaged during their decomposition, the calcareous salts contained in these animal substances, and thereby liberated, play a most important part in vegetation; and the question in vegetable physiology, of the mode in which these earthy salts are conveyed into the organs and tissues of plants, is now answered by the discovery of this solvent power of carbonic acid in water. At the same time, an additional confirmation is given to the truth, which observation and experience daily tend to confirm, that all organic creatures exist in a state of mutual dependence. χ

ON THE COLOURING OF GLASS BY METALLIC OXIDES.

It has been hitherto supposed that the oxides of *different* metals were required to give different colours to glass; but M. Bontemps has shewn that all the colours may be given by the oxide of one metal, according to the manner in which it is used. Thus he found that all the colours of the prismatic spectrum might be given to glass by the use of the oxide of iron in varying proportions, and by the agency of different degrees of heat,—the conclusion of the author being, that all the colours are produced in their natural order in proportion as the temperature is increased. Similar phenomena were observed with the oxide of manganese. Manganese is employed to give a pink or purple tint to glass, and also to neutralize the slight green given by iron and carbon to glass in its manufacture. If the glass coloured by manganese remains too long in the melting-pot or the annealing-kiln, the *purple* tint turns first to a light *brownish red*, then to *yellow*, and afterwards to *green*. White glass in which a small proportion of manganese has been used is liable to become light yellow by exposure to luminous power. This oxide is also in certain window glass disposed to turn pink or purple under the action of the sun's rays. M. Bontemps has found that similar changes take place in the annealing oven. He has determined, by experiments made by him on polygonal lenses for M. Fresnel, that light is the agent producing the change mentioned; and the author expresses a doubt whether any change in the oxidization of the metal will explain the photogenic effect. A series of chromatic changes of a similar character were observed with the oxides of copper; the colours being in like manner regulated by the heat to which the glass was exposed. It was found that silver, although with less intensity, exhibited the same phenomena; and gold, although usually employed for the purpose of imparting varieties of red, was found by varying degrees of heating at a high temperature and recasting several times, to give a great many tints, varying from blue to pink, red, opaque yellow, and green. Charcoal in excess in a mixture of silica-alkaline glass gives a yellow colour, which is not so bright as the yellow from silver,—and this yellow colour may be turned to a dark red by a second fire. The author is disposed to refer these chromatic changes to some modifications of the composing particles rather than to any chemical changes in the materials employed.—*British Association*, 1849.

USE OF CHLOROFORM IN MANIA. BY E. B. MOORE, M.D.

Dr. Moore relates that some time since, about 9 o'clock P.M., he was called to see a lady, Mrs. H————, labouring under mental alienation. She had been troubled, for some days previous, with *odontalgia*, for which she had applied various "specifics" of her own and friends' recommending. At this time she did not complain of the tooth, but, occasionally, she would put her hand to the face, grate her teeth, and groan; she would then rise, dance and sing, kick, strike, throw a chair, or any thing that came in her way, as she was moved either with pleasure or pain: in short, she was perfectly maniacal. She did not

know her own husband, or any of her friends. Many efforts were made, without success, to persuade her to have the tooth extracted, or to take something to quiet her raving. She said nothing ailed her—that she needed no medicine, and would take none; and, as to losing her tooth, she had no inclination. It became necessary to keep two or more persons constantly on the watch, to prevent her from injuring herself or the things in the room. Under this state of things, her husband was advised to have the chloroform administered, as the most certain means of quieting her. It was sent for, and by the assistance of three persons whom it took to hold her, it was administered. She made all the resistance in her power, but in a few minutes she was under its influence. She remained still about fifteen minutes, when she awoke more rational, and was induced to take an anodyne. In a short time, however, she again became delirious, when the chloroform was administered the second time, and she again became calm. She was now kept under its influence till she was in a sound sleep from the effects of this and the anodyne. She slept quietly from midnight till morning, when she awoke perfectly rational. She then walked half a mile, had her teeth examined, again took the chloroform, and had the defective tooth extracted, without being conscious when it was done. Since then she has enjoyed a comfortable state of health.

Dr. Moore has been in the practice of giving chloroform for the last fifteen months, to alleviate the pains in parturition, in extracting teeth, and for various other affections, and has never yet witnessed any ill effects from its use.—*Boston Medical and Surgical Journal*, 1849.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

On Stammering, and its Treatment. By Bacc. Med. Oxon.

A Plea of Humanity in behalf of Medical Education. By A. H. Stevens, M.D. LL.D. &c. New York.

The American Journal of the Medical Sciences. Oct. 1849.

An Introduction to the Study of the Human Mind. By Daniel Bishop.

The American Journal and Library of Dental Science. No. 4, July 1849.

Duties and Qualifications of Physicians: an Introductory Lecture. By John Ware, M.D.

The Philadelphia Medical Examiner. Nos. 5, 6, 7, 8, 9, 10, 11; May to November.

Lecture introductory to a Course of Clinical Medicine at the Glasgow Royal Infirmary. By J. A. Easton, M.D.

Principles of the Human Mind. By Alfred Smee, F.R.S. &c.

Kinesipathy; or, the Cure of Diseases by Movements. By Augustus Georgii.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 8.

Births.		Deaths.		*Av. of* 5 *Aut.*	
Males....	710	Males....	539	Males....	583
Females..	628	Females..	514	Females..	579
	1338		1053		1162

Causes of Death.		*Av. of* 5 *Aut.*
All Causes	1053	1162
Specified Causes	1049	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	208	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	61	49
3. Brain, Spinal Marrow, Nerves, and Senses	126	125
4. Heart and Bloodvessels	50	40
5. Lungs and organs of Respiration	203	214
6. Stomach, Liver, &c.	61	65
7. Diseases of the Kidneys, &c.	11	11
8. Childbirth, Diseases of Uterus, &c.	12	10
9. Rheumatism, Diseases of Bones, Joints, &c.	9	8
10. Skin	2	1
11. Old Age	54	57
12. Sudden Deaths	8	12
13. Violence, Privation, Cold, &c.	36	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	5	Convulsions	40
Measles	29	Bronchitis	86
Scarlatina	32	Pneumonia	88
Hooping-cough	18	Phthisis	133
Diarrhœa	17	Lungs	10
Cholera	0	Teething	8
Typhus	51	Stomach	8
Dropsy	25	Liver	13
Hydrocephalus	24		
Apoplexy	22	Childbirth	9
Paralysis	25	Uterus	3

Remarks.—The total number of deaths was 109 *below* the weekly autumnal average. The week was remarkable from the fact, that there was not a single death from cholera in the metropolitan districts.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·8
,, ,, ,, Thermometer[a] ..... 34·5
Self-registering do.[b] ....Max. 49° Min. 15°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·6.— Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2°.4 *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Dr. Pearson's paper will be inserted, and a number of the journal containing it forwarded.

The communications of Dr. Soltau, Mr. E. O. Spooner, and A B C, Carlisle, have been received, and will have early insertion.

Corrigendum.—In the leading article of the last number, page 974, col. 2, line 4 from top, for "Rennie," read "Prince."

MANCHESTER MEDICAL SOCIETY

Lectures

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LXXIII.

THE VENEREAL DISEASE.

Virulent Syphilis—Probable origin of this disorder—At first local, becomes a constitutional disease—may be propagated by inoculation — produced by specific poison—Kind of sore depends upon difference of constitution, tissue affected, specific virus — Action at first merely local—Early symptoms—Appearances of the sore—Progress of the chancre—Its peculiar characteristics different in different constitutions—Chancres in women—Treatment of syphilis by cautery, by mercury — Precautions with mercurial treatment—Time which the virus requires to become rooted in the system—Treatment of questionable sores—Modifications of the treatment by mercury.

In my last lecture I finished the subject of gonorrhœa or non-virulent venereal disease. I then pointed out that this form of disease may be produced by the action of any irritating agent, either mechanical or chemical, upon the mucous membrane of the urethra; that it can never produce secondary or tertiary symptoms; that it runs through the regular course of inflammation common to mucous membranes; and may be cured without the employment of any specific remedy. By the term specific I mean a medicine capable of exciting a peculiar action in the system more powerful than that of the virus or poison which produced the disease; and if, as according to the views of John Hunter, two specific actions cannot exist in the body at the same time, the weaker must necessarily give place to the stronger, and the disease will be consequently expelled from the system.

Virulent syphilis is that form of venereal disease in which the local infection speedily reacts upon the constitutional powers, producing secondary and tertiary symptoms; but the forms of this disease are so various, both in the primary and secondary features, as frequently to render a just diagnosis extremely difficult, which difficulty is further increased by the obstinacy with which patients attempt to conceal the only possible true cause of their malady; but, at the same time, it is true that coitus is not actually necessary for the propagation; and, unlike gonorrhœa, syphilis may be propagated from one individual to another by inoculation with the secreted virulent matter. Although syphilis may be communicated by the mother to the fœtus in utero, it can only be in the secondary form of the disease; as chancre, and chancre only, can produce a primary sore. As syphilis is, then, capable of extending itself from individual to individual, by contact or inoculation, it is considered to be produced by a virulent morbid poison, specific in its action, and capable, when applied to the human body under peculiar circumstances, of propagating or reproducing itself; having, at the same time, the property of acting both locally and on the constitution.

Chancre, or virulent syphilis.—It is generally believed that the virulent form of venereal disease first made its appearance in Europe at the end of the fifteenth century—that it was, indeed, brought over from the new world by the followers of Christopher Columbus, in the year 1493. Some writers state, however, that the disease was well known, and prevailed among the ancient Jews, Greeks, and Romans, and among their descendants, long before the time of the voyages of Columbus; but it appears that no mention is made by any of the ancient writers upon the science of medicine of a disease the symptoms of which agree with those of virulent syphilis. It is true that they describe a disorder of the generative organs which agrees in its character with gonorrhœa, but never one producing constitutional effects of any kind, much less the violent and marked symptoms of syphilis. The exact period of the origin of syphilis is now, however, a matter of mere conjecture and speculation, and is a point of but little moment. One thing seems, however, certain, that this disease originated solely in the human race, and that no other animal is capable of becoming influenced by the action of the morbid poison peculiar to it. A great number of experiments, for the purpose of establishing this fact, were undertaken by M. Ricord, who inoculated in different ways dogs, guinea-pigs, rabbits, and even birds, but always with a similar negative result, although the purulent matter used in his experiments invariably produced a development of syphilitic symptoms when tried upon the human subject. The result of these experiments led, therefore, to the conclusion "that the inoculable poison of syphilis can act only upon the human subject, and that the disease cannot be communicated to the lower animals."

The virulent syphilis may be described as chancre, or syphilitic ulcer, and is produced immediately by inoculation, and makes its appearance upon some part of the genital organs. There is, however, nothing more difficult than to decide from the appearance of a primary sore upon its true syphilitic character; and so various, indeed, are the appearances of these sores as to have led some surgeons to believe in the existence of more than one specific kind of poison, the peculiar character of the sore depending upon the kind of poison producing it. I believe, with John Hunter, that there is but one specific syphilitic virus, and that the conditions of the sore depend mostly upon the constitution of the patient, and in some measure upon the nature of the tissue at the time affected. Hence arise the various tendencies to different degrees of hardness, ulceration, phagedena, sloughing, and irritable venereal sore; but, under the same constitutional circumstances, a sore from any source would assume all these varieties of aspect. It is not, therefore, from the physical condition of a sore, as Ricord has well observed, that the surgeon is able to decide upon its virulent nature; and the only means which really seem to exist competent to form a guide to the judgment in this question is inoculation of the patient himself with some of the discharge from the suspected sore. Neither the science of chemistry nor the use of the microscope have hitherto done anything towards detecting any specific signs of true virus. Dr. Donné having observed the presence of animalculæ (vibriones) in the virulent discharge from chancre, was led to believe that the specific action may depend upon these animalculæ; but, as they are found in the discharge from almost every mucous surface under inflammatory action, this opinion is, I think, entitled to but little confidence. I confess that in my own practice I have come to something like the belief that induration, approaching to cartilaginous hardness at the base of a sore, is almost always the indication of its virulent nature, and demands, therefore, the specific action of mercury for its cure, or secondary symptoms will be certain to supervene. If a patient should present himself to the surgeon within three or four days after the sore has appeared, I agree with Ricord in the belief that the application of nitric acid will entirely destroy the virus, and that the sore will heal and not leave the patient subject to secondary symptoms. I have in several cases followed this practice, and without the occurrence of secondary symptoms in a single instance. I should, however, never recommend the adoption of this plan when the base of the sore has become indurated. The success of this "abortive treatment," as it is termed by Ricord, proves that a period exists in which the action of the venereal contagion after infection is entirely local. Some authors speak of this as the period of incubation, but I can scarcely comprehend what is here meant by incubation. Pus cannot be formed instantaneously: there must be premonitory symptoms. So also in the development of disease from the action of a virus; and, therefore, it must be considered that at first there is merely a local action, perhaps merely simple irritation; and secondly, the specific action is generated. It is during the first epoch that means may be employed to destroy the virus before the constitution is affected, the hardness of the sore being, in my opinion, an indication of the constitutional specific action having commenced.

As may be inferred from what I have already said, syphilis may not only be propagated by sexual intercourse, but also by inoculation, which may take place by accident: for example, a lancet may be employed in bleeding a patient after having been used to open a virulent bubo; and again, infants are not unfrequently inoculated with the primary disease during their birth, from the presence of a chancre in the vagina of the mother. The period which elapses between the time of infection and that at which the disorder becomes manifest varies from seven to ten days, but is sometimes considerably longer. The first local symptom is an inflamed reddish spot on the part infected. From this inflamed patch a vesicle arises, containing a small quantity of fluid. When the vesicle bursts ulceration is set up, and the part begins to thicken and to be elevated above the surrounding structures, the thickening being generally circumscribed, having an indurated base and prominent edges. The ulcer sometimes continues to extend itself, and assumes a phagedenic character. It may also acquire a hard everted edge. The usual form of a chancre is more or less circular, but this characteristic depends in great measure upon the situation of the sore, and the firmness of the attachment of the mucous membrane to the subjacent tissues. Hence a chancre extending from the glans to the mucous membrane of the prepuce exhibits great irregularity of form, in consequence of the unequal attachment of the mucous membrane to the interior of the prepuce and the surface of the glans.

Another great source of irregularity in the form of the chancre is the extension of the ulcerative process from one ulcer to another, uniting them into one irregular sore. The depth of a chancre is greater when the sore is situated on the prepuce than when on the glans, which latter structure seems to have a great power to modify the appearance of the sore, and from its

higher degree of vitality seems to resist the progress of the ulceration into its structure, and the sore therefore extends itself chiefly superficially. The surface of a chancre usually assumes a greyish appearance, looking as if besmeared with a secretion of that colour, having a degree of tenacity as if composed of semi-organized matter, and somewhat resembling the kind of secretion seen on cancerous sores. An eschar often covers a chancre, particularly if it be exposed to the action of the air; and from under this crust matter not unfrequently exudes; this matter is usually virulent. An areola of inflammation surrounds the sore, terminating usually by that hardness which constitutes the base; and the colour of the areola depends much upon the constitution of the patient. The edges of the chancre are generally everted, and, as I have before said, become indurated like the base. All these physical peculiarities, if present, would render the diagnosis of true syphilis sufficiently evident; but as the sores present all the various modifications already described, owing to differing constitutional conditions, it is but rarely that they present themselves in such a form as to enable the surgeon to arrive at once at a correct opinion. This involves a question, whether it be right to submit a patient to the ordeal recommended by Ricord, viz. inoculation? In my own practice I have frequently found great difficulty, when employing his method, in healing the factitious sore; and I am inclined to believe that even the constitutional symptoms are aggravated by thus adding a fresh taint through the medium of inoculation. I know that Ricord is of opinion that the quantity of matter introduced is of no importance as to the effect upon the constitution: in this respect I must, however, maintain an opposite opinion, which is indeed founded upon my own experience and observation of the disease.

Primary syphilitic sores in women are formed on the labia and nymphæ, just as they are upon the glans penis in man; and they go on to ulceration in exactly the same manner. Chancres are also often formed on the perineum, and even on the verge of the anus, in the female; for the purulent matter may run down from the genitals, and, excoriating the parts, produce ulcers upon them.

Treatment of Syphilis.—If a patient applies to me with a venereal sore which had only made its appearance three or four days before, I at once apply concentrated nitric acid, for the purpose of destroying the virus before it has affected the constitution; nor have I hitherto known a single case so treated in which secondary symptoms supervened. Some surgeons always recommend local means for the cure of a chancre, at whatever period it may be presented to the view, arguing, that if secondary symptoms do supervene, they are as readily cured as the primary. It is also considered by many that secondary symptoms may be cured without the use of mercury. I cannot say that I hold to either of these opinions, but believe firmly, that if secondary symptoms result, either from failure in the action of the applied cautery, whatever that may be, or from the unsuccessful issue of any other plan of treatment, that nothing but mercury can be relied upon as a true specific; but the mode of its exhibition, and quantity administered, must of course depend upon the state of the constitution of the patient. The plan of treatment which I adopt, I vary according to the appearance of the sore: if it exhibits all the indications I have described as the signs of a true chancre, I begin by treating the patient constitutionally. I give five grains of blue pill and a quarter of a grain of opium every night and morning, without applying any local remedy whatever. My reason for this is, that I consider the appearance of the chancre the best indication of the effect the medicines produce. Some years ago it was very much the practice to severely salivate syphilitic patients; but I may say that this custom among surgeons has now passed away, and mercury is seldom given in greater quantity than is sufficient to slightly affect the gums and salivary apparatus. The quantity of mercury required varies, moreover, in every case, as different constitutions are so variously affected by this medicine.

It appears to me much better to allow the chancre to remain without local treatment during the time the patient remains under the influence of the mercury; for as the surface of the sore is covered with a peculiar brownish matter, and it goes on gradually extending, and eating its way deeper and deeper into the structure in which it is formed, if black wash or nitrate of silver be applied the chancre loses at once its specific appearance, and consequently we are deprived of a valuable guide by which we may estimate the amount of constitutional effect produced by the mercury. I have myself long followed this plan of treatment, and with sufficient success to confirm me in my adherence to it.

When mercury is given to cure syphilitic sores, the patient should be prepared beforehand by a day or two of quietude, and by a purgative dose; and while under the influence of the mercury, he should be careful to keep himself from the vicissitudes of temperature, and from exposure to damp. He should also retain as much as possible the recumbent posture. When the mouth begins to be touched, diminish the quantity of mercury; give a pill every night only, or, if

that be still too powerful, every other night; but, at the same time, the action of the mercury must be kept up for some considerable time, perhaps not less than a month; and it is generally thought that slight ptyalism should be maintained from the time the mercury begins to act until its use is altogether discontinued. Ricord has attempted to lay down a rule by which the surgeon may know when to discontinue the use of the mercury; it is stated by this author, that after a syphilitic sore has begun to granulate and to secrete pus, it has lost its specific venereal character, and the virus is no longer inoculable. This, of course, can only be proved by inoculation; but, as I have before said, I object to this method, on the ground that it may produce additional sores equally difficult to heal with the original chancre. I therefore always adhere to the mercurial plan I have already laid down, and continue the use of the mercury until the induration of the sore is completely removed.

As I have before remarked, a longer or shorter time always expires after infection before the virus seems to have acquired sufficient power in the system to cause the development of the specific disease to which it gives rise. This condition, in which the poison is, as it were, rooting itself in the constitution, may be compared with the period of abeyance which occurs after the bite of a mad dog and before the development of hydrophobia; and so, before the virus has been taken up by the absorbents, and carried into the circulation, a chancre is entirely a local affection; it is during this period that, if the sore be destroyed by caustic, or excised, the disease may be checked, just as the excision or cauterization of the part, in the bite of a mad dog or in farcy, is held sufficient to obviate future danger.

When I have any difficulty in determining whether a sore on the genital organs be of a specific venereal character, I do not give mercury at first, but treat the patient according to the peculiar characters of the sore, as to whether it be inflamed, phagedenic, or gangrenous, employing such remedies as are indicated by those different conditions, without reference to specific action. If these means should, however, prove ineffectual in removing the sore, merely changing its character, perhaps, to the indurated condition so characteristic of syphilis, I should then proceed to administer mercury in small alterative doses, and in combination with tonics, still adhering to my plan of not applying any local treatment, that I may judge of the beneficial effect of the mercury by the improved appearance of the external character of the sore. There are some constitutions that are not so easily affected by mercury taken internally as when it is "rubbed in," and I therefore frequently substitute this plan for the internal exhibition of the remedy, if the patient fails to be affected by the pills at the usual period.

RENAL CALCULUS — PASSAGE THROUGH THE URETER ASSISTED BY THE USE OF ETHER. BY W. P. DEXTER.

The patient in this case was a man somewhat advanced in life, of a gross but temperate habit, accustomed to a large amount of exercise in the open air, and free from dyspeptic, and in fact from any kind of ailments. He said, however, that he had been subject to attacks of gravel, and that his urine was usually turbid, and deposited a red sediment.

After riding some hours in a jolting waggon, he was seized with violent pain, principally in the left iliac region, which became somewhat tender, but extending from the small of the back in the left side, along the ileum towards the groin. This had lasted for several hours when I saw him. There was slight nausea, and frequent desire to void the urine, which, by his account, was small in quantity, and free from blood. The pulse was 76, and there was no fever. He took an ounce of phosphate of soda; and by a large enema of warm water, and the application of fomentations and poultices, the pain abated, and he passed a comfortable night.

The next morning I found him sitting up, with slight pain over the left kidney. The urine had been passed in moderate quantity, and deposited an abundant lateritious sediment. He was directed to drink freely of flaxseed tea, with carbonate of soda in solution. An hour after, he was suddenly seized anew with the most excruciating pain, attended with violent paroxysms of retching. Sixty drops of laudanum were given; and as the distress continued, the patient was "etherized," with the view, at once, of relieving his anguish, and of facilitating the passage of the calculus into the bladder. The first inspirations caused ineffectual efforts to vomit; which having been checked by a copious draught of warm water, the sponge was again applied until he became completely insensible. After remaining in this state for a few minutes, he awoke, free from pain, of which he has since had no return.

Within a few hours he passed a considerable quantity of urine, of light colour, and free from sediment; and in it was found a very small, irregularly shaped concretion, which proved, on analysis, to be composed almost entirely of lithic acid. Its weight was only 0·16 of a grain. The next day he was in his usual health, and able to pursue his business.—*Boston Medical and Surgical Journal*, 1849.

Original Communications.

OBSERVATIONS ON HYDROCELE OF THE TUNICA VAGINALIS, AND ON ENCYSTED TUMORS OF THE LABIUM.

By Robert L. Macdonnell, M.D.,
Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland; Lecturer on the Institutes of Medicine, M'Gill College; Physician to the Montreal General Hospital; Consulting Physician Montreal Eye Institution.

(Communicated by the Author.)

Large Hydrocele of Tunica Vaginalis radically cured—Spermatozoa found in the Fluid—Observations.

A man, aged 45, was admitted under my care into the Montreal General Hospital, March 6, 1846, labouring under chronic bronchitis, with emphysema of both lungs. He was treated for the pulmonary disease for some days, before it was discovered that he had a large tumor which he had taken great pains to conceal, occupying the left side of the scrotum, and extending from the inguinal ring almost to the knee. This tumor was of an oval shape, its upper and lower portions being of the same size, whilst in its middle it was dilated; it could be traced to the ring, but it was not possible to force it through that opening; its surface was smooth, and the scrotum was stretched tightly over it; it was not painful in any part, and yielded a dull sound on percussion. On coughing, the tumor was evidently *moved*, but the peculiar impulse of hernia was not perceived. *The testicle was found situated at the very lowest point of the tumor;* it was not enlarged nor adherent to the neighbouring parts, and pressure upon it caused the usual sensation; the epididymis and cord could be traced at the back of the tumor for a short distance, but at the ring they could not be distinguished.

The patient could not give an accurate account of the origin or mode of growth of this tumor, except that he noticed it on the side of the scrotum shortly after he was attacked with the bronchitis seven years ago, and that since then it had gradually increased, but had never caused any uneasiness, except a dragging sensation in the loins from its great weight. It was evident that the tumor was either a hernia or a hydrocele: its shape, *the position of the testicle*, its having first appeared after severe coughing, countenanced the idea of a hernia, whilst the want of impulse, and its smooth and even surface, notwithstanding its shape, were characteristic of hydrocele. With either disease we might have complete dulness of sound on percussion; for a hernia on the *left* side, even of equal size, might be composed almost entirely of omentum, but the transparency of the tumor, as proved by the transmission of light, clearly showed it to be hydrocele.

19th.—The fluid, amounting to *forty* ounces (accurately measured) was drawn off, and an injection, composed of two parts of tincture of iodine and three of water, was introduced. In a few days the tumor had attained nearly half its original size, but there was no evidence of lymph being effused; and at the end of three weeks, there being no attempt at cure, the fluid was again drawn off, and a method of treatment adopted which was recommended by Mr. Adams, of the London Hospital, in vol. ii. of the *Lancet*, for 1843.

A camel hair brush, dipped in undiluted tincture of iodine, was passed through the canula, and freely applied to all parts of the serous membrane within its reach. The next day the tunica vaginalis was partially filled with a solid mass of lymph about the size of a large orange. This gradually became absorbed, and in less than three weeks he was discharged perfectly cured.

He again consulted me in June, 1848, for benign polypi of both anterior nares, which had displaced the bones and cartilages of the nose, and had given rise to great deformity and difficulty of breathing. I took advantage of the opportunity to examine the seat of the hydrocele, and found the parts in precisely the same state as when he left the hospital. And again to day, Feb. 22, 1849, I examined the parts, and they are found in a perfectly healthy condition.

The foregoing case is not devoid of

interest to the practical surgeon, on the following grounds:—

1. The situation of the testicle is quite unusual. Authors have varied in their statements as to the position which this gland occupies in hydrocele; according to some, it is more frequently met at the posterior part, a little above the centre of the tumor; others again assert that it is usually found *below* the centre; and some have stated that we find it occasionally in front of the tumor; but, as far as I am aware, no one has described its occasional appearance *at the very lowest part of the tumor*; on the contrary, the best practical writers agree in considering this situation of the testicle as a most valuable diagnostic sign between hydrocele and hernia; and it is not unlikely that a careless or superficial examination of the above case would have led to this error; its history, and the appearance of the tumor, being more calculated to mislead the surgeon than elucidate the nature of the disease.

2. The failure of the tincture of iodine injection is extremely unusual. In a note to *Chelius' Surgery* by South, it is stated that out of "eleven hundred and forty-eight cases treated by iodine injection, only *three* cases failed."* In instances like the above I would strongly recommend the iodine to be used in the same manner as employed by me; for it does not give more pain than the injection, and is not so likely to excite excessive inflammation as the introduction of a quantity of pure tincture of iodine, a method of treatment advocated by some surgeons, and it is certainly a much less painful plan than that recommended by Professor Porter, whose operations I have had opportunities of witnessing.

3. A short time ago, the late Mr. Liston showed that the fluid of hydrocele frequently contained spermatozoa, and he drew from this circumstance the conclusion, that in such cases a radical cure by the obliteration of the sac is not to be expected; for, instead of the latter being composed of the tunica vaginalis (a serous membrane, it is formed of the mucous lining of one of the seminal ducts,—a dilatation of which has taken place, in a manner similar to that observed in the formation of the tumor of ranula. When this discovery was first announced, a good deal of importance was attached to it by the illustrious author himself, and by writers on systematic surgery;* yet in the case under consideration a most complete refutation of these views was furnished; for though the fluid contained an immense quantity of spermatozoa, as proved by careful microscopic examination, the cure was accomplished by adhesive inflammation of the walls of the sac: the result of treatment was also strongly opposed to an opinion recently advocated, viz. that it is not by the effusion of lymph, and adhesion of the walls of the sac, that the cure of hydrocele is effected, but by a restoration of the functions of the absorbents of the part. That a cure is frequently accomplished without obliteration of the sac, is no doubt true; but, on the other hand, it is equally certain that it is by adhesion that the radical cure takes place in a great number of cases, for we know that it is by producing this condition that the success of various plans of treatment of hydrocele is established.

In reference to the presence of spermatozoa, Mr. Liston says—"This subject deserves further investigation, to discover — first, if the limpid fluid, drawn from cysts of the scrotum and inguinal region, uniformly or often contains spermatozoa. Secondly, what connexion subsists betwixt the seminiferous tubes and their cysts? Thirdly, whether or not, dilatation of these parts of the epididymis or vas deferens, by obstruction or otherwise, may not, in some instances, give rise to these collections. If so, this being a pouch lined by mucous membrane, we should have an easy solution of the difficulty regarding a radical cure not following injection as in the serous cyst. The

* There can be but little doubt that this success is greatly exaggerated, for I find my friend Dr. Bellingham, of Dublin, has recorded the failure of iodine injections in some of his cases, and feels disposed henceforth to adopt Mr. Adams' method of applying that remedy.— See *Dublin Medical Press.*

* "It is still matter of dispute, whether these had escaped from an accidental wound, or giving way of the tubular structure, either of the testicle or of the epididymis; or whether the cyst from which they were derived had been formed by dilatation of the tubular structure—as takes place in lacteal tumors of the breast, and in ranula. If the latter opinion prove true, as is inclined to by Mr. Liston, little benefit need be expected to result from injection in such cases."—*Miller's Practice of Surgery*, page 614, American Edition.

microscopic examination of the lining membrane of a recent cyst would easily settle the nature of the secretory surface."

In the same volume of the "Transactions," we find a paper on the "*Presence of Spermatozoa in the Fluid of Hydrocele*," by Mr. Lloyd, of St. Bartholomew's Hospital. This gentleman's observations go to prove that we do not find spermatozoa in the clear limpid fluid *devoid of albumen*, as stated by Mr. Liston, and consequently their presence is not exclusively confined to hydrocele of the cord; for in one of his cases "the situation of the fluid was such that there was no reason to doubt the case being hydrocele of the tunica vaginalis." In his second case he merely mentions that he found spermatozoa in the fluid of a hydrocele, which he had previously tapped 15 or 16 times, but no mention is made of its precise nature; in the third case, in which "the situation of the fluid appeared to be very much like that of common hydrocele of the tunica vaginalis," spermatozoa were found in great numbers, although the fluid "displayed very much the appearance described by Mr. Liston, as exhibited by the fluid of the encysted hydrocele in which he had discovered spermatozoa, but in one respect it differed from that, as it contained a considerable quantity of albumen"—the product of secretion from a serous membrane.

Mr. Dalrymple, in the 27th volume of the same work, mentions that both he and Mr. Liston had lately found these animalcula in the fluid of common hydrocele, and accounts for their presence in such cases by supposing that the testicle or cord had been punctured during the operation, and thus an exit afforded for their escape; and at a subsequent meeting of the Society, Mr. Paget stated "that the most probable explanation of these cases, therefore, seems to be, that certain cysts, seated near the organ which naturally secretes the materials for semen, may possess a power of secreting a similar fluid; and this explanation is in some measure supported by the analogy of those cysts which are found in the ovaries, and more rarely in other parts of the body, especially beneath hairy parts of the skin, and in which the ordinary products of the skin, such as epidermis, sebaceous matter, hair, &c., are formed on the genuine cutaneous tissue of their internal surface."*

It appears to me that neither of the above explanations is satisfactory. It is true that by a careless operator the testicle or cord might be punctured in a small hydrocele, but in one so large as to contain forty ounces of fluid, and in which the testicle and cord were removed to a great distance from the point of entrance of the trocar, the escape of spermatozoa cannot be accounted for on such grounds. And Mr. Paget's solution of the difficulty seems equally untenable; for without resting our objection to it on the fact that cysts in the neighbourhood of other glands, whose secretions are purely (or nearly so) excrementitious, as the kidney and liver, are not found to contain the most essential elements of these secretions, and that the fluid of cysts developed in close contact with the testicle and seminal ducts is found destitute of seminal animalcules, as proved by the recent observations of Gosselin,† it is impossible to believe that a diseased serous membrane should possess the property of secreting a fluid so elaborate as the semen, and one which is so clearly endowed with vitality.‡

It seems to me to be more consistent with the facts of the different cases that have been placed on record, and with the particulars of that just detailed, to suppose that in the first instance the disease is merely a simple dilatation of one of the ducts, the result of contraction or obliteration of its canals from local inflammation, caused by some injury to the part: that after some time this dilatation gives way, and pours its contents into the cavity of the tunica vaginalis—in which they accumulate in some instances without interfering with the functions of the membrane; but in other instances the serous membrane takes on diseased action, and its secretion becomes mixed with that originally poured out from, and still secreted by, the ruptured cyst. In this way we can understand how the fluid may, in one case, present a limpid appearance, devoid of albumen; and in the other exhibit a copious admixture

* Medico-Chirurgical Transactions, vol. xxvii. p. 401.

† Vide Archives Générales, tom. xvi.; and British and Foreign Medico-Chirurgical Review, No. IV. p. 533.

‡ Vide Müller's Physiology, by Baly, vol. i.

of albumen, and a variety of colours; and in both, we may find, on microscopic examination, a quantity more or less abundant of spermatozoa, in some cases alive, in others dead and partially disorganized.

The practical deduction to be drawn from the above case, however, is, that the detection of spermatozoa should not deter us from attempting the radical cure, which, if we should not accomplish by one method, we may succeed in effecting by another.

Encysted Tumor of the Labium, successfully treated by the application of Nitrate of Silver to the Interior of the Cyst.

Having met with some cases of Encysted Tumors of the Labium, which presented greater difficulty in diagnosis than is stated by writers on diseases of females to exist, and having derived the greatest satisfaction from a peculiar method of treatment of these tumors, I am induced to lay the particulars of the following case before the profession, in illustration of these two points:—

I was consulted, March 16, 1846, by a lady, aged about thirty-six. She stated that three years before, after a severe and long journey in the winter, during which she suffered much from the bad state of the roads, she was attacked with violent vomiting, which lasted for a fortnight. After it ceased, she noticed, for the first time, a small tumor inside the left labium, which she considered a rupture produced by the efforts at vomiting, having formerly been subject to inguinal hernia. This tumor gradually increased up to the present time; it was not at any period painful, never receded or diminished in size, never emitted any gurgling sound, nor was it ever the seat of œdematous swelling, heat, or redness. It had gradually increased, and had latterly interfered with her movements, and for some time previous had prevented her sitting down, except with the body reclining far back, and when she sat on a hard seat, pain of an acute kind used to shoot upwards from the tumor through the sacrum. Latterly she has been annoyed by a sensation of dragging from the loins. The tumor itself had never been the seat of pain, nor had there been any discharge from the vagina, or any irritability of the bladder. The catamenia had been absent for years: she had never been pregnant but once, and then she had a miscarriage.

On examination, a tumor of an oval shape was found occupying the left labium; it was about the size of a goose egg, running along the labium from the anterior fourchette to the perinæum, *and sending a process upwards, for about two inches along the wall of the vagina.* The skin covering it was devoid of any inflammatory appearance, and moved freely over it. There was no pain complained of when pressure was employed. On coughing, *an impulse was given to the tumor when it lay in its usual position*, but when it was lifted up it did not receive any. On percussion, it yielded a dull sound. All attempts at making it enter the abdominal cavity completely failed. No irritation was noticed on its surface; no rumbling heard at any time, nor was the least change produced by the varying conditions of the bowels: when constipated, the tumor was as soft and as small as when they were relaxed.

March 20.—An exploratory puncture was made, and matter of a dark olive colour, devoid of odour, escaped. The opening was enlarged, and a tumblerfull of thick fluid flowed out, which was of a creamy consistence, and on microscopic examination was found to be composed of decomposed pus globules, with a large quantity of what appeared to be epithelial scales intermixed. The sac of the tumor was freely cauterized with nitrate of silver conveyed on a probe, and the orifice kept open by means of a plug of lint.

27th.—The sac of the tumor has been filled up with solid secretion, and has undergone great diminution in size; no general disturbance.

April 1st.—Scarcely any trace of the tumor to be detected, except some thickening of the labium, giving to it a greater fulness and prominence than the other. Ordered to apply mercurial ointment.

10th.—Perfectly recovered, no traces of the disease left.

With the exception of Dr. Ashwell, no writer on diseases of females that I have consulted, speaks of the points of similarity presented by some cases of encysted tumors of the labium and

vaginal and pudendal hernia. He remarks, "that he has known much difficulty arise in the diagnosis of this tumor from a hernia," and in the case I have detailed, the size of the tumor, its shape, supposed origin and apparent connection with the interior of the pelvis, by means of the ascending process already described, together with the fact that the patient was predisposed to rupture, and that the tumor received some impulse from coughing, made me proceed cautiously with an exploratory puncture before laying open the cyst.

It is true, that for one case which will present any difficulty in diagnosis, we may meet with a dozen where no such obscurity exists; yet, from the occasional occurrence of such cases, the practitioner should examine all with care before attempting a cure—for it is strange, that though the differential diagnosis between inguinal tumors and hernia in the male is insisted upon with great force by all writers on these subjects, yet in works especially devoted to diseases of women little attention is paid to the matter. But it was more especially with the view of illustrating a method of treatment which I have found invariably successful, and productive of little annoyance to the patient, and of easy application, that I have laid the foregoing case before the profession.

Four plans of treatment have been recommended for the cure of these tumors:—1. Complete dissection out of the whole of the cyst—a plan which must be extremely difficult in most cases, in all extremely painful, and in such a case as mine quite impracticable. 2. Laying open the cyst, and filling it up with charpie. 3. Seton; and 4. Removal of the fluid, and then compression, so as to bring the walls of the cyst into close apposition. The plan of treatment which I have employed for some years past has been to cauterize with nitrate of silver the lining membrane of the cyst, so as to cause adhesive inflammation; and this process I have found to be so readily excited by the caustic, that I have never been obliged to repeat it a second time. In some instances I have touched the granulations occasionally during the progress of the cure, for the purpose of hastening the filling up of the sac; and these were instances where I believed that the nitrate of silver had acted, not by inducing adhesive inflammation, but by effecting a change in the functions of the membrane, in consequence of which it threw out granulations, instead of secreting, as formerly, a peculiar fluid. In every case in which I have used the nitrate of silver in this manner, a speedy cure has followed, unattended by any bad consequences, and the patient has not been aware, in the majority of instances, that anything beyond the mere puncture of the cyst has been attempted. When we reflect for a moment upon the difficulty of dissecting out a cyst even of moderate size, and upon the excessive pain the patient must endure, both in this operation and in the second and third I have mentioned, and when we recollect the extreme difficulty, if not impossibility, of applying accurate pressure, it will be allowed that the method I propose is at least unattended with any of these inconveniences; and if it should prove in the hands of others as successful as it has done in mine, and I have little doubt but it will, it must be considered a plan of treatment preferable to any recommended for the cure of this disease.

The method of preparing the caustic may not be known to some of my readers, and I shall therefore make no apology for describing it:—A large-sized probe should be dipped in caustic, which has been rendered fluid by melting in a watch-glass, over a spirit-lamp or wax candle, until there is a complete coating of the caustic on the probe. When this cools we have the nitrate of silver in a form well suited for being conveyed through a small opening, and into a deep cavity, and by bending the probe we suit it to the shape of the cyst, and thus it can be brought into contact with all parts. In large cysts, such as that under consideration, I have had two or three probes thus prepared, as the quantity of caustic coating one is not enough for the extent of surface to which it must be applied.

This method of destroying cysts I have been in the habit of employing in other diseases, as in the encysted tumors of the eyelids, and in sebaceous encysted tumors; and lately I succeeded in curing a lady of a tumor of the shape, and about twice the size of

an almond, which had been growing for some months on the left jaw, and which had resisted every plan of treatment proposed by her former attendant, who had at last recommended its extirpation. A small puncture was made into it, and its contents, which were composed of a reddish jelly-like substance, squeezed out. A probe, coated with caustic, was introduced, and freely applied to its interior. For the next few days a small quantity of bloody serum oozed out, but the tumor gradually diminished in size, and now no trace of it remains, nor is there the least scar visible, which I need not say is a matter of some importance.

The discovery of this method of conveying lunar caustic to deep recesses has been ascribed by some of the writers in the *Dublin Quarterly Journal of Medicine*, to my friend Mr. Wilde; but the paper in which he first alludes to it was submitted to myself, as editor of that periodical before its management fell into his hands, and in a note referring to the matter, he attributed the discovery to Mr. J. Morgan, from whom he had learned it. I mentioned at the time that Mr. Morgan was not the discoverer, for the plan was quite familiar to myself and other surgeons long before Mr. Wilde's paper was written, and had been spoken of at a meeting of the Surgical Society, in connection with the treatment of small nævi. The paper was published, and the obligation to Mr. Morgan omitted; and hence the origin of "Mr. Wilde's method of applying caustic."

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on the 14th inst.:—J. B. Steward—J. W. Clement—C. A. J. Tompson—H. Horlock—C. Leonard—N. Crisp—E. Akers—A. Howse—C. M'L. Murray—D. Meadows.

Admitted on the 18th inst.: — T. P. Powell—J. Gaman—D. A. Douglas—D. H. Monckton—E. S. Cleveland—W. B. Mathias—G. H. Bailey—J. W. D. Brown—C. Hanbury.

The Council of this College have decided that candidates for Fellowships shall be examined in the French language. Professor Brasseur is the examiner elected for that purpose.

TREATMENT OF CHOLERA,

BY ARRESTING THE DISCHARGE OF THE SERUM OF THE BLOOD, OR SUPPLYING IT ARTIFICIALLY.

By C. B. NANKIVELL, M.D.
Torquay, Devon.

[Continued from page 755].

In the nature of cholera there is no shadow of reason why we should indulge the hope of finding a specific remedy, or wander in vain conjectures as to its exciting cause, instead of closely attending to those extraordinary pathological changes which go on with such rapidity, and, if unarrested, so speedily lead to destruction. Why should we in this pursue a different course to that followed in all other epidemic and contagious maladies? In typhus fever, for example, we do not seek an antidote to its peculiar poison, but we study its morbid lesions and complications, and especially those alterations in structure and function which lead to fatal results; and by carefully watching these changes, and timely efforts to avert them, endeavour to conduct the disease to a favourable termination. From all that has come under my own observaiion in the present epidemic and that of 1832, and from the investigations of several careful pathologists, there appears to me strong reason to believe that the same attentive consideration of certain pathological facts already known, and the application of remedies founded on a correct appreciation of those facts, would lead to a sounder and more satisfactory practice in cholera than any hitherto adopted. Direct experiment has, to some extent, confirmed this opinion by the test of numerical comparison; for I conceive that seventeen successful cases of this disease, all in its fully developed, and nearly all in its collapsed form, occurring consecutively in the practice of three medical men, supply an instance of far more favourable results than usually attends ordinary methods of treatment.

The morbid conditions described in my last communication afford ample grounds for the opinion that the most serious and important lesion in this disease is the loss of the serum of the

blood. It seems more than probable that the severity of the disease,—the impediment to the circulation, and intensity of collapse,—the degree of consecutive fever, and the vitiated state of the blood,—are all in proportion to the serous exudations; the relative strength of the patient, and the previous quantity and quality of the blood, having, of course, a modifying influence. The reputed cases of "cholera sicca" may be thought to militate against this view; but of these cases we have not yet sufficiently positive and authentic information to justify any decided conclusion respecting them. There appears, in these rare instances, always to be found a collection of the serous fluid in the intestines; but we do not know whether there is not also some other complication which may account for their deviating from the course of ordinary examples of the epidemic. The effect of treatment in choleraic diarrhœa is also strong evidence that the severity of the disease is in the ratio of the serous discharges. How else can we account for the prevention of collapse and consecutive fever by repressing the rice-water evacuations, so characteristic of cholera? Further elimination of the sanguineous serum is checked, and the patient recovers, unaffected by any other form or stage of the malady.

On these views of the pathology of cholera, based, I believe, on well-authenticated facts, we are able to establish the following obvious indications of treatment:—1st. To arrest the serous exudations; 2ndly, to promote the circulation of the blood; 3rdly, to restore the normal condition of the blood.

The first indication, in the cases treated here by astringents, was well accomplished by the use of gallic acid by the mouth and rectum. The most important part of this treatment was evidently the injection of the gallic acid, with a small quantity of laudanum and three or four ounces of starch, after each dejection. The pills of the acid, after each time of vomiting, doubtless also contributed to the astringent effect on the gastro-intestinal exhalents. The alvine evacuations were thus pretty speedily arrested; and this object gained, the patient was considered to have surmounted the chief source of danger. The vomiting generally went on for some hours, and even days; but so far from being found disadvantageous, appeared to be useful—first, in rousing the circulation, and subsequently in promoting the discharge of vitiated bile and other secretions, and thus unloading the congested abdominal viscera. After the serous exudations were restrained, the matters ejected from the stomach seemed for some time to consist of a variety of things taken as ingesta—often, I was inclined to think, inappropriate ingesta, as beef-tea and thick arrowroot, which, in a state of collapse, would certainly neither be digested nor received into the circulation by endosmosis. Water was the most desired; and, in moderation, seemed the most desirable drink.

The second indication was fulfilled by the external application, and the internal administration, of stimulants. The first object was very efficiently obtained by a large, very warm, and rather stiff, linseed meal poultice, between two layers of a towel, slightly sprinkled with turpentine, applied from the pubes to the clavicles, and retained by a flannel binder. This method of applying warmth answered well, as it was not interfered with by the jactitation of the patient, so common in extreme cases, or by the great restlessness of children in all cases, whilst the stimulus of the turpentine was useful in rousing the nervous energy and exciting the circulation, especially of the cutaneous capillaries, and thus acting revulsively from those of the alimentary canal. Warmth was likewise applied to the lower extremities, and care taken that the patient was covered by a sufficient number of blankets. Such internal stimulants as brandy, brandy and water, sal volatile, and spirits of camphor, or chloroform, were given as they were respectively preferred or best retained by the patient, and in such quantities as were required to bring about reaction. This effected, the use of stimulants was of course withdrawn.

In the early stage of the epidemic here, I saw some cases which were apparently in a hopeless state completely restored by the employment of galvanism, under the direction of Dr. Richardson Nicholson, and it is probable that this agent may be useful as

a powerful stimulus when the system is insusceptible of all other stimuli.

The serous exudations arrested, and the capillary circulation restored, much will evidently have been done to prevent the further deterioration of the blood by the draining away of its saline and aqueous portions, and by the suspension of the pulmonary functions. The recovery of its healthy condition will doubtless be promoted by such medicines and such ingesta as contain its lost elements, but can only be completely effected by the restoration of those depurating processes in the form of healthy secretions and excretions which have been suppressed, or diminished and impaired. The serum of milk was found a very useful beverage in several of the cases here; serving, it was thought, the twofold object of supplying some of the lost elements of the blood, and acting medicinally, in the form of wine whey, alum whey, or cream of tartar whey, as a stimulus, an astringent, or saline diuretic, was required. These drinks, diluted and made palatable, would be applicable, in one or other of these forms, to the confirmed or consecutive stage of the disease, and would often usefully supply the place of nauseous medicines, against which, in a state of sickness and vomiting, there is always so much repugnance. On one occasion, in which the patient was tormented with thirst, and, at the same time, with the rejection of every thing from the stomach, the purging having ceased, Mr. Toogood ordered with advantage the injection of alum whey into the rectum.

Reaction being fully established, and the purging checked, or the evacuations coloured with the usual secretions and excretions, it was usually found necessary, in addition to saline diuretics, to administer calomel and aperients. In a case in which the apparent retention of urea threatened coma, leeches were applied to the temples, and blisters to the nucha and inner part of the thighs; and some of the stronger purgatives were required, as calomel and colocynth, and castor oil and turpentine injections; and these purgatives were not only borne with safety, but, with the other remedies, relieved the patient from a state of impending danger.

Such is a brief and practical sketch of the combined astringent and stimulating treatment of cholera, as it was carried out in this place, and of the principles on which it was suggested and conducted. It was adopted by my medical friends with the readiness and liberality so characteristic of the members of our profession in embracing every proposal calculated to promote the good of those committed to their care. I have been unable to add a tabular statement of the cases, from notes not having been taken of all of them; but the symptoms of the one given may be taken as a type of the others, in all essential points.

Since my former communication it has afforded me much satisfaction to perceive that the most successful practice of the Parisian hospitals has been from astringent injections, in the forms of acetate of lead and nitrate of silver; but I do not think that this treatment has been practised there with the same energy and purpose as here. With the view I have taken of the most serious and fatal lesions in this disease, it becomes equally important to arrest the serous discharge in cholera as the sanguineous discharge in puerperal hæmorrhage. In both cases danger and death are the consequence of the loss of a portion of the blood; in the one case, the effect being produced by a reduction in the quantity of all its elements, —in the other, either immediately or remotely, by a large diminution in the quantity of some of its most important elements. In both cases the same end must, therefore, be sought with equal activity and energy; viz., to arrest the discharges which, if unrestrained, are so quickly and surely destructive.

There are, however, doubtless, many cases in which this could not be accomplished with sufficient promptitude to prevent the blood from being so reduced in quantity and altered in consistence as to be incompatible with the continuance of the circulation, or its restoration by the use of any stimulants. Under such circumstances I am strongly inclined to hope and to believe that this object might be effected by supplying to the blood artificially such a degree of fluidity as would admit of its propulsion through the capillary vessels. It is true that the injection of saline and aqueous fluids into the veins has not hitherto been followed by any great amount of success; but I think

a little examination into the history of the cases in which it has been tried will discover adequate cause for its frequent failure. The injection used has consisted of a solution of certain salts in "*ten pints* of water." "The effect of the injection into the mass of blood was always remarkable on the disease. All the symptoms subsided or entirely disappeared, except the excessive evacuations. These, however, returned, or became still more profuse, until a very short time after the injection *the whole of the fluid had passed off by the bowels*, and all the phenomena reappeared." It would have been strange if they had not done so. There are two almost certain sources of such a result very obvious in the foregoing account,—the continuance of the alvine discharges, and the quantity of the fluid injected. If the serous exudations are the chief cause of collapse, any endeavour to relieve the patient by injections into the veins, which almost as soon returned by the bowels, would of course be nugatory. Such attempts would only be analogous to the labours of Sisyphus; and what would be so likely to lead to an increase or recurrence of the serous discharges as engorging the vessels with liquid, and thus inducing the state of vascular repletion so conducive to sanguineous or serous transudation?

These being the faults of venous injection, as heretofore employed, lead to the hope that a more favourable issue would attend the supply of only such a quantity of fluid to the blood as would render it capable of capillary circulation, the feeble and relaxed capillaries of the gastro-intestinal mucous membrane being previously or at the same time strengthened and constringed by astringent remedies, so as to prevent the reiterated escape of the fluid by that channel. The exact nature of the fluid used may not be important; water alone, or impregnated with certain salts, might suffice; but, should these fail from their defective chemical character, it is not improbable that recourse might be had with advantage to the chemistry of nature, in the form of animal serum. This was suggested by Mr. Vivian, of this town, who, though not a member of the medical profession, has done much, by a series of meteorological observations for many years, to correct some very erroneous opinions, propagated and received by medical men, respecting the climate of this part of Devonshire.

I trust it will be long ere we are called upon to act on these or any other suggestions in again contending with so fearful a pestilence as that by which we have just been visited, interesting as its phenomena have been to those who have watched them; but surely this is especially the time,—now we have escaped from the excitement and alarm of surrounding devastation, and facts are fresh in the memory,—to look back, like wary travellers, on the dangers we have passed, and to consider the best means of escaping future perils.

Torquay,
November 23, 1849.

CASE OF

EXCISION OF THE HEAD OF THE THIGH-BONE,

UNDER THE CARE OF

CHARLES COTTON, M.D., F.R.C.S.
Senior Surgeon to the West Norfolk and Lynn Hospital.

JESSIE BULLEN, aged 12 years, admitted into the hospital Sept. 10, 1849, with hopeless disease of the right hip, said to have commenced nine months ago. She is a pale delicate child, of scrofulous habit, with dark hair, bright blue eyes, long curved eyelashes, and cheeks flushed of a vivid red colour. Her intelligence, interesting expression, and desperately emaciated condition, attracted much attention and sympathy. Her father, aged 37, a tall spare man, a tailor by trade, enjoys pretty good health. She has four brothers and sisters living, one of whom is subject to eruptions. The mother, aged 33 years, and a brother, died a short time since of consumption. She lies on her back, turned to the left side. The limbs are drawn up and contracted, and there is observed a large open sore over the right hip, which discharges thin curdy purulent matter. The least movement causes agonizing pain. Both ankles are excoriated and ulcerated, and there is a painful bed-sore under the ribs, near the spine, on the left side. The circulation is hurried, the appetite capri-

cious, and the stomach ticklish; but there is almost an entire freedom from cough.—Ordered to have cod-liver oil, judiciously administered, and any agreeable nutritious diet. Apply linseed poultice twice a day over the hip.

Sept. 28th.—Improved in appearance, and has gained flesh. The oil has been taken regularly, excepting an occasional discontinuance owing to the stomach being deranged.

Oct. 6th.—Renewed hectic excitement and exhaustion, loss of appetite, partial sweating, pain, and restlessness. The pitiable condition of the patient now led to a more searching examination. A large circular sore over the right hip disclosed the great trochanter, covered with florid granulations, prominently protruding; and on passing the finger through the posterior part of the opening, the head of the femur was easily reached, and found dislocated on the ilium, lying in the centre of a large abscess. The limb was drawn up and shortened, the knee rigidly flexed and immoveable, and fixed a little above and on the inner side of the opposite knee, which was also stiffly contracted, and drawn upwards and outwards. As it was evident the patient must sink unless some operative proceeding were resorted to, and as chloroform inhalation promised to disarm of importance any objection on the ground of pain and tediousness of the operation, the opinion of the medical staff was requested upon the propriety of attempting the relief of the poor girl by resection of the head of the bone.

10th.—Operation sanctioned in consultation, there existing no positive indications of organic mischief, or of the disease extending beyond the upper part of the femur.

12th.—The patient, having been previously rendered unconscious by the administration of chloroform, was brought into the operating room, in the presence of a large attendance of professional gentlemen of the town and neighbourhood, when Mr. Cotton proceeded to make an incision through the hypertrophied and ulcerated tissues, about five inches in length, commencing above the head of the bone, and terminating below the protruding trochanter: this was afterwards slightly prolonged, to facilitate the sawing of the bone. The soft parts were then cautiously dissected away and separated, and the head of the femur made to project through the wound, by forcibly twisting the limb inwards. The portion of bone to be removed was then grasped firmly in the operator's left hand, and a section made by a common saw, carried in an *oblique* direction, through the great trochanter and neck of the femur. The bevelled end of the bone being in a diseased condition, the saw was again immediately applied, and a slice about a third of an inch in thickness removed, the section terminating just above the lesser trochanter. The joint cavity, on examination, was found filled up with a mass of soft granulating deposit. An ineffectual attempt, owing to the friable state of the tissues, was made to secure one vessel, which at first spouted out briskly; but no hæmorrhage of importance occurred. On the removal of the patient to bed, the limb, now set free at the hip, was brought into as good a position as the contracted knee would admit, and steadied by means of a long splint on the outside. The operation was quickly completed without difficulty; tenotomy of the hamstring tendons was left for a future consideration, should the case do well. The chloroform inhalation answered admirably; some hysterical sobbing followed its withdrawal, and the girl complained much of pain in the right knee. Ordered Liq. Opii Sedativ. (Battlei) ℥xv. ex syrup. statim. Milk and toast-water diet.

13th.—Became quiet and composed towards the evening; was restless during the night, and a slight hæmorrhage took place from the wound. Has dozed much this morning, but still complains of pain at the knee, and of being cramped at the ankle; this was relieved on loosening the bandage, a slight sanguineous oozing continuing. The wound was dressed with lint, moistened with infusion of matico, and the following draught prescribed to meet irritative feverishness:—℞ Liq. Ammon. Acet. ʒj.; Tr. Hyoscyami, ℥x.; Vin. Ipecac. ℥v.; Syr. Papav. ʒss.; Aquæ, ʒx. Fiat haust. 3tia vel 4ta qq. hor. s.

14th.—A good night; pulse more calm; limb easy.

15th.—Another good night; no uneasiness of the limb. She is rather

feverish and thirsty. Pulse 120. Allow a little chicken and half a pint of porter.

16th and 17th.—Had rested well; tongue clean; symptomatic fever subsiding; the wound discharging freely offensive pus. To be dressed with chloride of lime solution. Discontinue the mixture.

18th.—Though composed and free from pain, there is slight fever and peakiness; and a disposition to diarrhœa has required a dose of astringent mixture. Bed very foul and offensive. The thigh appears shortened, and the end of the femur may be seen projecting within the wound, owing to the unavoidably cocked up and contracted condition of the knee. The complete influence of chloroform having been induced, the patient was removed to an adjoining bed and placed upon a sheet of gutta percha web. Mr. Cotton then, grasping the thigh with the left hand and the leg with the right, gradually but forcibly straightened the limb, by tearing through the adhesions at the knee. During the extension the integuments of the ham were torn across, and the lacerated edges drawn a finger's breadth apart (sub-cutaneous section of the tendons was dispensed with, as it was evident that the whole of the tissues, from long faulty position, contributed in keeping up the contracted state of the knee). A straight Liston splint, reaching from the axilla to beyond the foot, and previously shaped to admit of easy access to the hip, was now applied, and secured by a bandage to the limb, and further steadied by a wide web belt carried round the body. All this was accomplished with but little apparent discomfort to the patient, who only whiningly complained of the knee on recovering from the effects of the chloroform. Water dressing. A well was formed to receive the discharge by placing a heavy weight on the outside of the splint near to the wound.

19th.—Easy and comfortable, and pleased with the straightness of the limb; hopes in time to overcome the contraction of the other knee herself. The head of the femur is well embedded in the soft parts, and cannot now be seen in the wound.

20th.—Listless and sleepy. Has taken neither breakfast nor dinner today; was tempted to take some port wine and cake. The exhaustion seems attributable to the state of the bowels, which have been purged several times. If possible, engage her attention by conversation or other means; let her have fish, game, or poultry, and wine or porter, according to her fancy, and give an ounce of the following mixture three times a day:—℞ Ext. Hæmatoxyli, ʒiss.; Syr. Aurantii, ʒvj.; Acid. Nitr. Dilut. ʒiss.: Decoct. Cinchonæ aquæ puræ, aa. ℥vj. Ft. mistura.

22nd.—Tongue moist and clean; pulse less frequent; bowels acted but twice yesterday. Has relished her partridge, and taken some porter today. Sleeps well at night, though disturbed occasionally with pain in the course of the crural nerve. Apply frequently a warm chamomile fomentation to the groin, which is slightly swollen and tender. Take the mixture but once daily.

26th.—In every respect improved. The wound looks well, and discharges copiously tolerably healthy pus. Has discontinued the mixture, as it disagreed. Take a pint of porter and two glasses of wine a day.

Nov. 1st.—Appetite good, countenance cheerful, and spirits excellent. Has not been so well for months. Wound decreasing in magnitude, and granulating healthily.

5th.—A trifling bleeding from the nose during the night. Is altogether better. Hab. ol. jecoris aselli, coch. mod. 11 and 4 quotidie.

12th.—Gradually progressing. To give up the oil, as it produces nausea. Excoriated condition of ankles healed. A small pustular abscess has shown itself on the left knee. The bed-sore remains much the same.

19th.—The improvement in general health has continued. Has no sweats at night or cough. Less running of the pulse, and the cheeks flush only when the hip is dressed. The sore in the ham, produced by the extension of the limb, is slowly healing. Fearing an operation upon the left knee, she, with the assistance of the nurse, has very much overcome its contracted condition.

24th.—Straight splint removed, in consequence of ulceration of the ankle, against which it pressed. Limb placed on a pillow and fixed in a cradle.

28th.—Better; limb easy; very good appetite. Thinks that she will soon be able to sit up in bed. The wound at the seat of operation

does not now equal in size the sore through which the trochanter originally protruded. The edges are rounded and skinned over; the base is hollowed, and coated over with dirty yellow shreddy lymph. The discharge has much diminished. Dress with resin ointment.

Dec. 3.—Can move herself in bed, and admits of being raised for a short time, in a half upright position, with but little inconvenience. Hip wound stationary; the draining slightly increased, from the ointment. Bed-sore and other ulcerations healing. The limb lies extended upon a pillow, loosely supported by foot-splints. The left knee still continues much contracted.

12th.—Has gone on well since last report. The hip wound is now filled up with pale scrofulous-looking granulations, and would be pronounced as nearly healed did not a free purulent discharge give intimation of that process being far from sound. She complains much of her back and loins when raised up in bed, which is attributed to rigidity of the muscles, arising out of long recumbent position.

18th.— Has decidedly improved; feels better than she has ever done; enjoys her food, and sleeps well. Owing to her still complaining greatly of pain on being moved, she was turned over on her left side, when a loose portion of dead bone was observed lying in the unhealed part of the hip wound, surrounded by pale flabby granulations, on tearing through which, this was removed, and proved to be the necrosed end of the femur, about an inch and a half in length, worm-eaten and spiculated, and the medullary canal hollowed out at the lower part, where it had been thrown off from the shaft of the femur. An examination by the finger could not detect the slightest remaining particle of denuded bone. There is a fresh impetiginous-like pustule on the left knee, which still continues obstinately semi-flexed. The other external ulcerations are either healed or are rapidly becoming so. The case continues to give promise of well-doing.

The portions of bone removed, measured by a tape drawn from the point of insertion of the round ligament to the upper edge of section, *over the head, curve of neck, and great trochanter, four and three-quarter inches*, and from similar points *below, two and a half inches*. The head of the bone was denuded of cartilage, and a carious cavity admitting the end of the finger existed at its under surface. The under part of the neck was also softened and damaged by caries. The trochanter and remaining shell of the bone retained a seeming healthy firmness The cancellous structure was filled with pale yellow lardaceous pus.

Remarks.—The propriety of resecting the head of the thigh-bone in *advanced disease of the hip, complicated with dislocation*, practised first in this country by Mr. White in 1822, and revived by Professor Fergusson in 1845, and since recommended by that eminent authority, has been the subject of much discussion, and various strong protests and objections urged against the operation have been most ably met and commented upon by Mr. Henry Smith, who has frequently directed the attention of the profession to the particular circumstances which render a resort to excision not only justifiable, but a *duty*. The details of the above interesting case *may possibly aid* in disarming of influence the sweeping and strongly-expressed unfavourable opinions which have been has ily promulgated; for although, in its present stage, no confident prediction of permanent benefit can be hazarded, nevertheless an auspicious commencement, and upwards of nine weeks' progressive amelioration, create a hope that the constitutionally depraved condition of the system may in a degree expend itself at the outlet still existing at the hip, and the skin ulcerations resulting from long pressure be obviated by the further favourable progress of the case admitting of a more frequent change of position. But whatever be the termination,—*temporarily amended health* only, protracted chronic disease, or death from phthisis,—it must be conceded that the operation,—severe and formidable as it appears,—has at least, in this instance, given a chance of life, and afforded marked comfort and relief to a helplessly deformed girl, who, harassed by pain and worn down by slow and wasting hectic, must, had she survived, have remained in a crippled and pitiable condition to the end of her life.

Lynn, Dec. 18, 1849.

MEDICAL GAZETTE.

FRIDAY, DECEMBER 21, 1849.

THE duty of a judge is to expound the law: and it is justly supposed, from the experience and knowledge which members of the bar must acquire before they are promoted to the judicial bench, that there are no men better qualified than our judges, to interpret the laws of this country. Their decisions may occasionally excite the ire of persons who feel aggrieved by them; but let it be considered, that they are not responsible for the law; they lay it down as they find it without bias or prejudice; and those who think they have reason to complain, should complain of the law and not of the judge. They may go further than this; they may try their hand at law-making, and show practically how they would improve what they clamorously describe as defective. We shall then put confidence in their sincerity as reformers for public and not for private good.

The case of NOTTIDGE *versus* RIPLEY has led to the publication of at least four pamphlets, some of which display a large amount of misplaced zeal and unprofitable indignation. This interesting case may be dealt with on its own merits, or in reference to the *obiter dictum* of the learned judge who tried it,—namely, that those persons only should be confined in a lunatic asylum who are dangerous to themselves or others. The proceedings of the defendants were, as we have already shown, illegal and indefensible.* One of their pleas in justification was, that the plaintiff, Miss Nottidge, "was in such a state of mind as to be likely to injure herself and other persons, and that it was in consequence of her being in that state they, the defendants, had had her put in a place of safety." This plea they wholly failed to make out: there was no proof whatever of this alleged danger; and doubtless it was this circumstance which led the learned judge who tried the case, to dwell so strongly upon the rule for confining lunatics, which has called forth the remonstrances of Dr. Conolly and Lord Ashley,—the former having been consulted in the case, and given his opinion after the abduction; while the latter had his conduct seriously implicated in the result, as one of the Commissioners of Lunacy.

Dr. Conolly plainly tells his readers, that the opinion so authoritatively laid down by the Chief Baron is "both mistaken and mischievous." If this means any thing, it implies that the writer is better acquainted with the law of England regarding the confinement of lunatics than the learned judge who tried the case. This unfortunate misapprehension pervades the whole pamphlet: it was the writer's duty to have shown, if he could, that the view entertained by the learned judge was not in accordance with law; but he contents himself with condemning it as the private opinion of the judge, and as involving a rule "far too limited for the welfare of society, for the comfort of private families, and for the protection of many harmless insane persons themselves."

We take the following passage from a report of the trial, as it is to the statement contained in this passage that Dr. Conolly and Lord Ashley so vehemently object. The Chief Baron, addressing Mr. Mylne, one of the Commissioners of Lunacy, said:—

"It is my opinion that you ought to liberate every person who is not dangerous to himself or to others. If the

* MEDICAL GAZETTE, Dec. 7, page 974.

notion has got abroad that *any person may be confined in a lunatic asylum, or a madhouse, who has any absurd or even mad opinion upon any religious subject, and is safe and harmless upon every other topic*, I altogether and entirely differ from such an opinion; and I desire to impress that opinion with as much force as I can in the hearing of one of the Commissioners."

In reference to this Dr. Conolly remarks:—

"It is not the dangerous *lunatic* alone who requires to be placed in an asylum. If the liberty of *an insane person* is inconsistent with the safety of his property or the property of others; or with his preservation from disgraceful scenes and exposures; or with the tranquillity of his family, or his neighbours, or society;—if his sensuality, his utter disregard of cleanliness and decency, make him offensive in private and public, dishonouring and injuring his children and his name;—if his excessive eccentricity or extreme feebleness of mind subject him to continual imposition, and to ridicule, abuse, and persecution in the streets, and to frequent accidents at home and abroad;—his protection and that of society demands that he should be kept in a quiet and secluded residence, guarded by watchful attendants, and not exposed to the public."*

The writer here assumes throughout that the person confined is a *lunatic;* while the remarks of the learned judge apply to individuals generally whose alleged lunacy may, as in Miss Nottidge's case, be really *the* matter in dispute. We do not hesitate to assert, that unless some such rule as that laid down by the learned judge be followed by medical practitioners in signing certificates for the confinement of alleged lunatics, there will be an end to all personal liberty. Take the case of a believer in the unknown tongues of Irving, in the absurdities of Johanna Southcote, or of the doctrines of the Mormonites, with their profane impersonation of the deity: it is very well to say that a person holding the doctrines of one of these sects is mad, and that, if possessed of property, he or she should be locked up as a lunatic; but we contend that, unless these religious delusions render the person's conduct dangerous to himself or others, or unless there be very strong evidence of insanity from general habits, irrespective of these fanatical fooleries, a medical man is not justified in incarcerating the person even in the best conducted lunatic asylum in the three kingdoms. It is not the mere presence of a delusion, but its influence on general conduct, that the practitioner should regard, in signing a certificate. If it were not so, besides locking up the whole body of Agapemonites, married and single, we are bound to confine as insane the disciples of Swedenborg and Irving, the Mormonites, Rappites, Shakers, Dunkers, the bearded followers of Johanna Southcote, and the members of numerous other sects whose tenets are offensive to decency and common sense. Let any female fanatic, possessed of £6000 in the 3 per cents., be brought before a medical man, whose opinion is merely sought, perhaps by interested parties, for the purpose of procuring a certificate, the chances are, if he seeks for the presence of a religious delusion and implicitly confides in the statements made to him by those who wish to establish the existence of insanity, he will unhesitatingly attach his name to the certificate. If he should conscientiously refuse, another may be found who will be less careful in his inquiries, who may take the religious delusion itself as a sufficient ground for confinement, and thus unwittingly aid the designs of those who have perhaps from kind but mistaken motives come forward to deprive a relative of

* A Remonstrance with the Lord Chief Baron touching the Case of Nottidge *v.* Ripley. By John Conolly, M.D., &c. 1849. (The Italics are our own.)

liberty. Let insanity be once imputed, and it is astonishing how easily the mind is prejudiced to regard the most trivial acts or expressions as proofs of mental derangement. The more obstinate and violent the person shows himself, whose liberty is thus infringed, the more strongly does the inexperienced practitioner feel that he is dealing with a real lunatic.*

In his "Indications of Insanity" Dr. Conolly tells us:—

"The fact of the patient's madness can only be established by certain tests of the manner in which his intellectual faculties are exercised, and these tests are to be found in his appearance, in his dress, in the known physical accompaniments of madness, and in his words and actions. *That* is the medical question. The *next* is a medico-legal question, and turns wholly on the disposition of the patient to *injure* himself or his property, or to *injure* others and their property; and on the probability of such a disposition, though not manifested, being suddenly developed. On the first question hangs the medical treatment and superintendence; on the second, restraint, confinement, deprivation of authority, and control over property."

Dr. Wingett, of Dundee,* who quotes this passage for the purpose of showing that the test for confinement proposed by the Chief Baron is identical with that long since suggested by Dr. Conolly himself, gives us another extract from this work, in reference to a well-known anecdote:—

"Lord Erskine, in the course of his defence of Hadfield, observed that he remembered a man who indicted another for imprisoning him; and no act of the counsel (Erskine himself) could draw from him an indication of disordered mind; but when Dr. Sims appeared in court, the man addressed him as the Lord and Saviour of mankind. On account of this extravagance, the person indicted by him was acquitted. But the man persevered, brought another indictment, and well remembering what had caused the former to fail, could not on this second occasion be brought to say a syllable indicative of his mental delusion. Now, cases of this kind are quoted in medical books to show the difficulty of proving insanity, but they show something more. For when the difficulty of eliciting a proof of disordered mind is so great, when the disorder is so limited, and so seldom evinced, what possible right can any one have to interfere with, or to imprison, any man so afflicted? Assuredly, no more right than to imprison a man for being short-sighted, or a little lame of one leg. Unless the man mentioned by Lord Erskine was disposed, in consequence of his belief in the real presence of the Saviour, to inflict injury on any one or

* The attendants of lunatic asylums are always ready to believe in the existence of insanity, even in a sane and competent person. Mr. J. O'Connell mentions in his "Experiences," &c. the following ludicrous incident, which he states occurred to Sir Edward Sugden while holding the office of Lord Chancellor of Ireland. The Chancellor visited somewhat by surprise a Lunatic asylum in the neighbourhood of Dublin, to satisfy himself as to its condition. A hasty notification of his visit is said to have got there just before his arrival, but one a good deal coloured by the waggish propensities of the sender (whoever he was); and the head of the establishment chancing to be absent, the notification in all its colouring was accepted as truth, and so acted upon by the subordinate officials. In consequence, Sir Edward is said to have found himself rather unceremoniously treated while awaiting in the parlour the return of the proprietor; and when his patience had become exhausted, and he signified his intention of going over the establishment without further delay, he was struck aghast by being informed by the attendant that he could not be allowed to do it. "Can't be allowed to do it! What do you mean, fellow?" asked the indignant Chancellor. "I mean just what I say, then. You *can't* go, so you may as well be quiet." "What do you mean by this insolence? Open the door and show me to my carriage. I shall report your conduct, and if your master does not punish you, I shall take steps to make both him and you respect my authority." "Oh! be *asy* now with your authority. Keep quiet, I tell you. *Divil a foot* you'll stir out of this till the docthur comes back, and puts you where you want to be sadly." "What's the meaning of all this? Don't you know who I am, fellow, or are you mad?" "Oh! faith there's one of us mad, sure enough. Troth! I know you very well, if that's all that's troubling you." "You can't know me, or you would not dare to behave thus to me. I am the Lord Chancellor of Ireland" "Lord Chancellor? well, sure you're welcome home to us. *We have three or four Lord Chancellors here already.*" And the story goes that Sir Edward had to submit to this confinement until the return of the proprietor and manager of the asylum, an hour or two later; when with some difficulty he established his identity and *sanity*, and was once more a free man.

* A Letter to the Right Hon. Lord Ashley, relative to the case of NOTTIDGE *v.* RIPLEY, by T. T. Wingett, M.D., Dundee, 1849.

on himself, or unless it led him to neglect his affairs and his family, those who confined him were justly indicted for the false imprisonment, and *ought to have been punished.*"

Was this a greater delusion than that which has been ascribed to Miss Nottidge, and has been regarded as a proper justification of her imprisonment for seventeen months? The limits for the exercise of this right of imprisonment are, in our judgment, most humanely and properly put. Mr. Mylne would do well to couple Dr. Conolly's commentary on Erskine's case with the advice given him by the Chief Baron at the trial:—"If the notion has got abroad that any person may be confined in a lunatic asylum or a mad-house who has any absurd or even mad opinion upon any religious subject, and is safe and harmless upon every other topic, I altogether and entirely differ from such an opinion." If his lordship had made a quotation from the "Indications of Insanity," he could not have more correctly or emphatically expressed the rules which, according to the view of a most experienced physician, should govern the confinement of persons alleged to be lunatics. But that we may be under no mistake regarding the opinions of a gentleman who has been looked upon as the great champion of non-restraint in England, another well-known case is quoted in the same pamphlet, in which proceedings in lunacy were taken against a gentleman merely because he entertained the palpably absurd delusion that Queen Charlotte was in love with him. Dr. Conolly, in commenting upon this case, says:—

"No great mischief seems to have been done in this instance, but the principle acted upon is perfectly *frightful*, and opposed in every respect to that which I have endeavoured to impress upon the practitioner's mind; for *if we begin to punish the groundless notions of visionary men, where are we to stop?* And if this can be done *wherever there is property to be seized, the injustice arising out of it must be monstrous.*"

On the other hand, in his pamphlet on Miss Nottidge's case, we find Dr. Conolly expressing himself in the following terms:—

"There are many other forms of unsound mind which, although for a length of time unattended with actual danger to the lunatic or others, lead to consequences so intolerable that an asylum must be resorted to for relief from them. Delusions as to rank and consequence, as to property, as to money owing or withheld, as to attachments on the part of persons of high station, often prompt actions so absurd, so inconvenient, and entailing such persecution on particular families, that interference is positively required before the individual becomes dangerous, which, also, if he is not interfered with, he is always very likely to become. The danger must not be waited for or incurred; it must be prevented."

Taking the former extracts as expressing the deliberate views of the author, we think if the learned judge had desired to show that his opinion on the confinement of persons alleged to be lunatics, was neither "mistaken" nor "mischievous" in a medical point of view, he could not have done better than refer the "Remonstrant" to the "Indications of Insanity."

Certificates of insanity must not be signed by medical men except upon some definite and reasonable rule. In this free country we have no greater right to adopt compulsory Asylum treatment for alleged diseases of the mind, than we have compulsory Hospital treatment for real diseases of the body. The patient or his friends may, it is true, suffer by the want of such despotic power, but the exercise of it is quite incompatible with true liberty. A man has a right to be eccentric if he pleases, and to entertain any sort of religious delusion, provided he does

not show an insane mind in other respects, and does not thereby do injury to himself or others. It would be a cruel infringement of his liberty to send him to an asylum as a certificated lunatic merely on account of this eccentricity or delusion. In fact, to use the language of Dr. Conolly, "*if we begin to punish the groundless notions of visionary men (or women), where are we to stop?* And if this can be done where there is property to be seized, the injustice arising out of it must be monstrous." This will, we think, be the opinion of all who seriously reflect on the subject. The rule suggested by the Chief Baron may be open to objection if taken strictly, and interpreted without reference to the Nottidge case; but we look in vain in the pages of the "Remonstrance" for any better rule, *i. e.* for one which shall prevent the improper confinement of those who, in spite of the existence of religious delusions, are competent to manage their affairs.

Reviews.

1. *A Treatise on the Diseases of the Air-passages; comprising an Inquiry into the History, Pathology, Causes, and Treatment of those affections of the Throat called Bronchitis, Chronic Laryngitis, Clergyman's Sore Throat, &c., &c.* By Horace Green, A.M., M.D.; formerly President and Professor of the Theory and Practice of Medicine in the Castleton Medical College; Vice-President of the New York Medical and Chirurgical Society, &c. Large 8vo. pp. 276, with plates. New York and London: Wiley and Putnam. 1846.
2. *Observations on the Pathology of Croup; with Remarks on its Treatment by Topical Medications.* By Horace Green, A.M., M.D. Small 8vo. pp. 115. New York and London: John Wiley. 1849.

These two volumes will bear a most favourable comparison with the majority of medical works that have issued from the American press, too many of which are but plagiarized compilations. Those now before us are the result of accurate and diligent personal observation, practical in their character, and, to a great extent, novel in the views advanced. Dr. Green's object is to bring before the medical profession his claim to originality in the employment of topical remedies to the pharynx and larynx in an extensive class of diseases—viz. those of the follicles of the mucous membrane lining the fauces and air-passages,—a class which has not always been sufficiently distinguished from general inflammation of the same parts. The French pathologists may have anticipated the author, in some degree, by the local application of solutions of nitrate of silver to the fauces; but Dr. Green was the first to extend its use successfully to parts *below the epiglottis* in various inflammatory diseases of the vocal organs.

We shall first endeavour to put our readers in possession of the most important features of the former of the two works the titles of which are given above, by passing at once to the third chapter, which enters on the pathology of the diseases under consideration.

"Affections of the throat are ordinarily arranged by nosologists in connection with those of the œsophagus, or are treated independently of those diseases which occur in the larynx, trachea, and bronchi.

"Pathologically considered, the relation which exists between the fauces, tonsils, and pharynx, on the one hand, and the respiratory tubes on the other, is much more intimate and important than the connection which exists between the throat and the œsophagus.

"In almost all the inflammatory affections of the air-passages, whether primary or consecutive, the diseased action has its origin in the fauces and pharynx, and extends, by continuity, from thence to the respiratory tubes; whilst the membrane lining the œsophagus may escape inflammatory action altogether, or become but partially implicated. * * *

"The exact pathological conditions which exist in the throat and the air-passages, in diseases of these parts, have been until recently but imperfectly understood. Indeed, at the present day, several affections of the larynx and trachea are confounded by different writers, or their origin assigned to morbid conditions which do not exist; whilst, on the other hand, accumulated pathological facts show conclusively that there are other affections of the air-passages whose charac-

teristics and morbid relations are still involved in obscurity.

"To point out the seat and nature of one of these affections, to investigate its causes, and, from a knowledge of its true pathology, to establish correct principles of treatment, are among the objects of the present inquiry." (p. 24-25.)

These passages, with the additional statement that disease of the follicular glands, is the pathological condition to which the author refers, place before us the leading idea of the first of the two works now under our notice.

Dr. Green then briefly passes in review the state of the mucous membrane of the fauces and larynx, under acute and chronic inflammation, detailing the history of a case intensely interesting to every patriotic citizen of the United States—viz. the fatal laryngitis of Washington.

In the fourth chapter the author treats more especially of follicular inflammation of the air-passages.

"That peculiar affection of the throat which, under the appellations of 'bronchitis,' 'chronic laryngitis,' 'clergyman's sore throat,' &c. &c., has occurred, especially during the last ten or fifteen years, so frequently among public speakers and others, consists primarily and essentially,—as I shall be able, I think, to demonstrate,—in a diseased condition of the glandular follicles of the mucous membrane of the throat, larynx, and trachea. * * *

"The structural changes to which the mucous follicles of the throat and air-passages are liable, are — inflammation, which may result in ulceration, hypertrophy, induration, or in a deposition of tuberculous matter in the follicles themselves, attended in most of these conditions by a greatly increased and vitiated secretion." (p. 42-43.)

This form of disease has escaped historical notice until within the last twelve or fifteen years; it more particularly attracted attention in 1830, during, and subsequently to, the prevalence of influenza in America and Europe: so little was it noticed before this period, that it would seem to be a new disease, or an aggravated form of an older malady. Recently several works have appeared on "Clergyman's Sore Throat,"—this being the class of cases from which Dr. Green has derived the greater part of his observations: not that this disease was confined to the clergy, but that it affected them in common with public speakers more extensively than any other section of the public. We may judge of its extensive prevalence when we learn from Dr. Green that upwards of four hundred cases have come under his care, of which about one-fifth were public speakers or teachers of singing, &c.

The disease we are considering is distinct from bronchitis, laryngitis, &c., in which diseases the general surface of the membrane is inflamed; while in the former the follicles may be inflamed, indurated, or even ulcerated, the intervening membrane retaining its normal condition. As these follicles —at least at the advanced stages— secrete a peculiar substance resembling tubercle, or the same product seems to be infiltrated into the submucous tissue, Dr. Green names it "tubercular sore throat."

The first approaches and the progress of this disease are often insidious, its only indications being slight soreness of the throat, with some irritation about the organs of voice.

"If we inspect the throat and fauces during the progress of the above symptoms, we shall find the epithelium, which in the healthy state of the mucous tissue covers its surface, more or less destroyed, its absence being manifested by the slightly raw or granulated appearance which the membrane presents; the mucous follicles will be found hypertrophied, and will appear distinctly visible, especially those studding the upper and posterior part of the pharyngeal membrane. If the disease has been long-continued, a portion of the follicles may be found indurated, or, in some instances, filled with a yellowish substance, having a resemblance to, and presenting the physical characters of, tuberculous matter; whilst striæ of opaque adhesive mucus, or of a mucopurulent secretion, may be seen hanging from the veil of the palate, or coating the posterior wall of the pharynx. As the disease advances, and the follicles situated at the root of the epiglottis and in front of the arytenoid cartilage, and the still more numerous glandulæ of the laryngeal mucous membrane, become involved in the morbid action, all the above symptoms appear greatly aggravated: the hoarseness is much increased, and is constant; speaking or reading aloud is attended with great difficulty, and, when continued for any period followed by pain and increased soreness in the region of the larynx, and by a sensation of extreme languor, not only about the vocal organs, but throughout the whole system. In some cases where the disease affects th

glands situated in the ventricles of the larynx, and near the vocal chords, the voice becomes completely extinguished; or, if by great effort the patient essays to speak aloud, the vocal resonance is uneven, harsh, and discordant.

"In such cases, notwithstanding the situation and extent of the disease, there is seldom present any decided or troublesome cough; and in this respect follicular disease differs essentially from all other equally grave laryngeal affections. Cases have fallen under my observation repeatedly where the affection had advanced until the symptoms present indicated extensive disease of the follicles of the larynx, and of the membrane covering the vocal ligaments, — until the ulceration of these glands, situated at the root of the epiglottis, could be felt upon the laryngeal surface; and yet the patient would remain free, or nearly free, from a cough, notwithstanding an abundant acrid secretion poured out by the diseased follicles would occasion an incessant hawking, to clear the upper part of the windpipe and the pharynx of this tenacious mucus." (p. 51-53.)

Dr. Green narrates many cases of this disease, containing an accurate and faithful description of the malady as we have often met with it among the clergy and others whose engagements demand frequent and continuous employment of the vocal organs.

Our readers will find in these cases a very complete history of the various states of the constitution, or of the organs concerned which complicate the disease, and the diagnosis not only of this, but of other diseases of the air-passages. Many cases which have been regarded as phthisis, hæmoptysis, &c., &c., successfully cured, have doubtless been but forms of this "tubercular sore throat."

Among the remote causes of the disease, Dr. Green enumerates hereditary tendency, strumous diathesis, climate, debility, sex, age: among the exciting causes, influenza, eruptive fevers, over-exercise of the voice, and tobacco-smoking: with reference to the latter, he combats the opinion of Dr. Mott, who regarded it as a prophylactic.

Both the symptoms and the treatment may be gathered from a study of the cases given by Dr. Green; but we may state that on the latter is founded the author's chief claim to originality. His treatment consists in the application of a solution of the nitrate of silver, in the proportion of two drachms to the ounce of water, not to the pharynx alone, but even to and within the glottis itself; and this is the point on which the author more especially dwells: others, he says, stopped short in their application above the epiglottis, —he has established its practicability, safety, and utility, when applied to the glottis. As the topical employment of the solution of nitrate of silver in croup forms the subject of Dr. Green's last work, we must leave the consideration of his earlier production to notice the later; premising that what is laid down in the one is equally applicable to the other, due allowance being made for difference of age in the patients, &c.

The frequency of the occurrence, and the extreme urgency of the danger in croup, invest it with an anxious interest which must have been felt at some time by every medical man—certainly by every general practitioner; we know with what rapidity it will run its course from the croupy catarrh to the fatal œdema or ulceration of the glottis, often in spite of the most judicious remedies. The small space that in its seat can be permitted for effusion in or near the mucous membrane, and the certainty of this result in too many cases, all urge us strongly to receive gladly and most thankfully any suggestions which in such cases hold out a greater prospect of safety than we have hitherto possessed. Such Dr. Green assures us is the remedy he proposes; and not only so, but tells us that it is one which he has tried and found successful, even to his most sanguine expectations. This remedy, as we have already stated, is the solution of nitrate of silver applied to the larynx.

"Ordinarily I have applied in croup a solution composed of from two scruples to a drachm of the salt, dissolved in one ounce of distilled water. A remedy of this strength I have applied freely to the fauces, pharynx, and into the larynx of young children, in a large number of cases during the last eight years, and in no single instance have I observed any indications of the danger of suffocation from its employment. On the contrary, I have repeatedly observed, and have once before remarked, that much less bronchial irritation is produced by the application of the nitrate of silver into the larynges of young children who are suffering from croup, than when it is introduced into those of adults who are affected by chronic disease of the larynx."

"The instrument which I have ordinarily employed for making direct medicinal appli-

cations to the fauces, and into the cavity of the larynx, in the topical treatment of croup, is one composed of whalebone, about ten inches in length, slightly curved at one end, to which curved extremity is securely attached a small round piece of fine sponge." (p. 81-83.)

The author's remarks on the general treatment of croup are judicious. We fully concur with him in his observations on the extreme danger of the usual mode of exhibiting an emetic of tartarized antimony: its effect on the heart's action is sometimes so fearfully depressing as to require the employment of powerful stimuli to save the child from its consequences. It is equally true, as Dr. Green has observed, that bloodletting is not required; the utmost depletion we have seen called for has been the application of a few leeches. Counter-irritants, as sinapisms, blister plaster, &c., we have found of great service. Our duty, however, now is not to lay down the treatment of croup, but to give an opinion of the works referred to in the previous remarks, and this is strongly in their favour. We would advise our readers to possess themselves of this excellent little monograph on croup; to the junior practitioner it will afford safe guidance,—to the senior it will convey valuable hints. The larger essay, on Follicular Disease of the Throat and Air-passages, although we could wish it were less diffuse, is a contribution to pathology which should confer on the author a reputation as wide in Europe as he deservedly enjoys in America.

The Transactions of the American Medical Association, instituted 1847. Vol. I. 8vo. pp. 403. Printed for the Association. Philadelphia. 1848.

The first annual meeting of this Association was held in Baltimore, in May 1848. It comprises 492 members and delegates, including practitioners from all the States, and of this number 266 members were present. The volume opens with the minutes of the first meeting; and at the forty-seventh page we come to what is called the Appendix, but which is really the substance of the whole volume before us. We have here long reports by Committees on the Medical Sciences, Practical Medicine, Surgery, Obstetrics, Education, Medical Literature, Publication, Pharmacy (Code of Ethics), on the United States Naval Medical Corps, Hygiène, the Falsification of Drugs, Registration of Births and Deaths, Indigenous Medical Botany, and Statistics of the Medical Practitioners of Virginia, &c.

Among the papers on special subjects under these various divisions, we may notice—1st, in Practical Medicine, Dr. Gurdon Buck's cases of Œdematous Laryngitis successfully treated by scarifications of the glottis, illustrated with coloured plates; 2d, in Practical Surgery, various papers and interesting statistical tables on the Employment of Anæsthetic Agents. From one of these, by Dr. Bigelow, we take the following remarks on the danger which is alleged to attend the use of the vapours of ether and chloroform.

"*Dangers.*—It remains only to speak of the dangers of the anæsthetic state. From this category, the symptom of asphyxia may be rejected; this being an evil easily anticipated, when due to an imperfection in the process; to the non-admission to the lungs of oxygen. Gradual and overwhelming narcotism may also be anticipated and arrested. The danger arising from the specific effects of an inebriating vapour in the pulmonary tubes may be considered—1, as a question of experience and fact; and 2, of analogy and probability. As to the fact, I have been unable to find any fatal case clearly resulting from the inhalation of ether, until the very recent one at Auxerre, apparently resulting in part from convulsions improperly treated, and in part from a neglect of the indications which the pulse affords. Of this case the details are imperfect. Deaths, like those reported by Nunn and Robb, occurring at an interval of twenty-four hours or more after the operation, may or may not have been accelerated by ether; which does not prevent, nor is to be considered responsible for, the ordinary collapse resulting in certain states of the system, after certain injuries and certain operations. The strong argument in behalf of ether is, that so few opportunities have occurred in which it could be even suspected of agency in fatal results.

"With chloroform the evidence is a little different. Two somewhat remarkable cases of death, occurring during the brief administration of this agent for surgical purposes, at once present themselves; the Cincinnati case and that of Mr. Meggison at Winlaton. In these cases death occurred in about five minutes from the beginning of the inhalation. In the Cincinnati case the quantity inhaled must have been considerable, from a saturated sponge in a four inch glass globe; yet in Meggison's case a drachm only was applied upon a handkerchief. It is quite

possible that death resulted in the latter case, as Dr. Simpson avers, from asphyxia produced by the administration of brandy and other liquids before the patient was able to swallow. Such error would be easily avoided. Yet these instances suggest a specific cause of danger. This is the sudden impression upon the system of a powerful inebriating agent. Abundant alcoholic stimulus has often produced immediate death; and analogy would suggest that inebriating vapour in the lungs may be the equivalent of similar fluid in the stomach; and that in one or both the cases alluded to, chloroform may have produced a sudden and overwhelming shock upon the system.

"Apart from the somewhat obscure case before alluded to, there is no authentic evidence that sulphuric ether has been a cause of sudden death; and there is little doubt that this immunity from danger in its use is due in part to the comparatively moderate degree of its inebriating property, and in part to its volatility. Chloroform is much stronger than ether, while it is less volatile; so that although the vapour of a few drops may only give rise to moderate symptoms, and then escape by exhalation, that of a large quantity whose volume the lungs might easily contain, might powerfully impress the system, while the delay of its evaporation would materially enhance its cumulative effects. Such theory suggests a consideration of practical importance: that in the use of chloroform a moderate dose should be inhaled gradually and not at once.

"It is obvious, too, that the agency of heat to promote its evaporation must increase the chance of danger. I think it may be laid down as a rule that a drachm of chloroform, at ordinary temperatures, suffices for a gradual inhalation of three minutes in the average adult. In recognizing a possible danger from an instantaneous and powerful dose on the one hand, it must not be forgotten that many of the unpleasant symptoms of the anæsthetic state are undoubtedly induced and aggravated by protracted and futile attempts to produce insensibility with an insufficient dose. Experience shows that after the first few minutes, and with due regard to the condition of the pulse, it is safe to increase the quantity of ether or of chloroform until the inspired air is fully saturated and the patient fairly narcotized.

"If there is any one consideration calculated to arrest attention in the history of etherization, it is, that although the anæsthetic agents have been open to liberal use in every part of the civilized world, whether experimentally, ignorantly, or carelessly; although thousands have experienced their good effects; and although the physiologist, the ether opponent, and the coroner, have been equally ready to seize upon and to exaggerate any case of accident that might seem to fall within their range; yet it is probable that the number of cases thus publicly suspected have been less than ten, while the only conclusive instance of direct relation between an anæsthetic agent and death are two in number. Can antimony or opium show as clean a bill of health for the same period?" (p. 212-214.)

Out of 154 cases in which surgical operations were performed, including 36 amputations, Dr. Bigelow informs us that 95 did well, 17 were much relieved, 5 relieved, 7 not relieved, 11 dead, 2 uncertain, and 17 under treatment. Chloroform was used only in 13 cases. The results are decidedly favourable to the use of anæsthetics.

The Obstetric report is short, and is principally occupied with the use of anæsthetic agents in midwifery. The reports on Education and Medical Literature are highly interesting. From the latter we select the following remarks in reference to medical journalism in America:—

"*Medical Journalism in America.*—In the course of half a century from the establishment of the first of the Medical Journals, their number has been gradually rising, until at the present time at least twenty are known to be in existence. Some principle in addition to the wants of the reading community must exist to account for such inordinate fecundity in this particular department. This is to be found in the homely fact, that a medical journal is a convenient ally and advertising medium for public institutions and publishing establishments, and that by the *help yourself* system so generally established it is not necessarily much harder to edit a medical journal than to furnish the 'notes and additions' to the work of a British author. Still, the general character of these journals is respectable, and of several among them highly creditable to the state of medical science. Every year shows that exact observation is more and more valued, and that a better literary standard is becoming gradually established. The committee would not discharge an important duty, if they neglected to point out what appear to them the most obvious defects noticeable in this important department. The first is a tendency to speculate, and very often to dispute about the ultimate causes of diseases, instead of thoroughly investigating their phenomena. This is a point which has been made the subject of controversy elsewhere. Whether the true version be 'Don't think but try,' or

'think *and* try,' it very certainly is *not* 'think *instead* of trying,' or 'instead of observing.' Yet this is the way in which an incalculable amount of time and paper has been wasted by men of ingenious minds placed in the very midst of pathological occurrences which had never been properly studied in their character of phenomena, and this it is which gives such a gaseous and unsubstantial character to many of our magazine articles, that even the greedy Abstracts and the cannibal Retrospects, pass them by as diet fit only for the chameleon! Another and sorer cause of complaint, of occasional but not frequent occurrence, is to be found in the liberties allowed to anonymous writers—not so much with regard to each other, for if 'Medicus' and 'Senex' were to succeed in reciprocal annihilation, the loss might not be serious—but with regard to their neighbours at large and to things in general. An editor is responsible that nothing shall be admitted into his pages, the essential character of which is hostile and inflammatory, on the same principle that he is bound to be courteous in his common intercourse. Some errors of this kind are doubtless owing to want of careful supervision on the part of the editor. That such negligence is very general, there can be no dispute; there is hardly one of the journals whose fair features are not marked with the *acne* of typographical inaccuracies—and as the editors are educated men, the inference is inevitable that they have not read their own pages. Some years since, a leading American Journal remarked of the report of the Massachusetts Insane Hospital, 'on page 79 is a very important typographical error—the word *chains* occurs twice when it should be *chairs*. No chains have ever been used in the institution.' But within a few months the same journal allowed the following words to stand upon its pages as Latin: '*mulierem uteres gerentum morta quopiam acuto corripi iefbale;*' and speaks in its January number, of a disease as being 'imminently curable.'

"The committee have no intention of furnishing a list of errata to the periodical works in question, although they have almost involuntarily accumulated the means of so doing. The most unpardonable are those which mangle and distort the names of our medical authorities: 'Lænnec,' 'Bœrhaave,' 'Bonelli,' 'Shenk,' and many more, have suffered this kind of mutilation or martyrdom. On the other hand, some new honours have been awarded by a similar mechanism; and what is still more remarkable, new authorities in science have been created by the same agency. 'Baron Louis' received his title in Boston (Nov. 3d, 1847); 'Sir John Hunter' was knighted in New York (Jan. 1848), and *Hives*, the inventor of 'Hives' Syrup,' was born a full grown therapeutist at Philadelphia (April 1842).

"The advertising portion of the journals seems to be considered by some editors as beyond the jurisdiction of medical ethics. It is to this opinion, or more probably to mere inadvertence, that the physician owes the privilege of reading before he opens one of the prominent journals, the notice of one Dr. Beach's Medical Works, 'for which he has received numerous gold medals from the various crowned heads of Europe, and diplomas from the most learned colleges in the Old World.' (July 1847.)" (p. 283-4.)

The *acne* of typographical inaccuracies is not always due to the cause assigned. We believe that it most frequently arises from an author or reader being too full of his subject, and too much impressed with the meaning of what he reads, to examine mechanically each individual symbol employed by the printer. In a work on surgery, we have seen "congealed" brain standing for "congested" brain, although the author had certainly read what he had written, and had had ample opportunity of correcting the press. In another instance, a gentleman who had reported a case entirely overlooked, in correcting the press, the typographical *acne*, that he had prescribed for a female patient five grains of "ox-tail" instead of "ox-gall." It is consolatory, however, to find that the Transactions before us are not free from this morbus typographicus. The errata present thirteen names wrongly printed; and on the first line of the report which we are now examining, we find "Committe" put for Committee.

We are informed that—

"The original works on medical subjects produced in this country are almost all of them general treatises, intended especially for students. The national practical tendency shows itself in the best of these to good advantage. To contrast the American mind and its prototype, the English, with that of some other nations, it might be said that the Frenchman considers most in disease what there is to *see* about it, the German what there is to *think* about it, the Anglo-American what there is to *do* about it. The object of these works sufficiently accounts for their generally elementary character, and for the fact that few of them pretend to do more than serve a temporary purpose, and then give place to newer compilations. A few exceptions have already been referred to as of more permanent value; but it must be confessed that the

part of our present medical litarature most likely to reach posterity is in the form of fragmentary contributions to science, rather than of any more formally and elaborately organised productions. The *Translations* made in this country are, with few exceptions, from the French, and have naturalised many of the best practical authors of that country. Many of the higher class of works remain yet untouched: those of Rayer on Diseases of the Kidneys, and of Grisolle on Pneumonia, may be mentioned as examples. The three great Dictionaries have proved too formidable for transfusion; and the incomparable *Compendium de Médecine*, a work which has more erudition and more actual intellectual outlay employed in its construction than would furnish forth twenty 'Practices of Medicine,' is absolutely ignored, so far as the Committee are aware, with a single exception, by all the writers of this country." (p. 286.)

We are glad to find that the Committee strongly censure the practice which is so common among "Editors" in the United States, of stealing the labours of English writers, and thus deriving a living by a species of literary buccaneering of the most condemnable kind.

"It cannot be denied that the great *forte* of American medical scholarship has hitherto consisted in '*editing*' the works of British authors. The Committee are not disposed to disguise the fact that this business has been carried on in a very cheap and labour-saving fashion. A tacit alliance between writers and publishers has infused the spirit of trade into the very heart of our native literature. The gilt letters of the book-binder play no inconsiderable part in the creation of our literary celebrities. Sometimes the additions of the 'American Editor' have been real and important. ottener nominal and insignificant. The following calculation of the proportion added to different recently published works, taken at random, will show the average amount of material so contributed. The editor's proportion was, in two instances, one-fourth; in two more one-eighth; in one, one-ninth; in another, one-tenth; in others one-fifteenth, one-seventeenth, one-nineteenth, one-twentieth, one-twenty-eighth, one-fifty-ninth, one-sixty-fifth, one-ninetieth, one hundred and seventh; and, in one instance, such a sprinkling as a single penful of ink might furnish, and leave enough to spare for a flourishing autograph. The fairest fruits of British genius and research are shaken into the lap of the American student, and the great danger seems to be, that in place of genuine culture of our own fields, the creative energy of the country shall manifest itself in generating a race of *curculios* to revel in voracious indolence upon the products of a foreign soil!" (p. 286-7.)

We fear that the literary locusts will decline to take the hint conveyed in these lines, and refuse to lay aside a practice which is one continued violation of the eighth commandment, until a stringent international copyright act has been obtained. An English writer, whose work succeeds in his own country, is sold off dirt-cheap on the other side of the Atlantic; and the American publisher and editor share the profit without awarding a cent to their unfortunate victim.

Our space will not allow us to go into an analysis of the other reports contained in this volume of the Transactions. We look upon it as a most satisfactory publication, and one which cannot fail to be read with interest and instruction both in England and America. Our Provincial and Surgical Association, and the Medico-Chirurgical Society, might, in the preparation of their own Transactions, draw some useful hints from an examination of this volume.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

December 11, 1849.

DR. ADDISON, THE PRESIDENT, IN THE CHAIR.

On the Identity or Non-identity of the specific cause of Typhoid Fever, Typhus Fever, and Relapsing Fever. By WILLIAM JENNER, M.D., Lond., Professor of Pathological Anatomy in University College, London, and Assistant Physician to University College Hospital. (Communicated by Dr. Sharpey).

THE author, at the commencement of his paper, remarks that for many years smallpox, measles, and scarlet fever, were confounded under one name, and that it was only after the publication of Dr. Withering's essay that measles and scarlet fever were regarded as distinct affections, *i. e.* distinct as to their course, their symptoms, their lesions, and their causes. Typhus fever, typhoid fever, and relapsing fever, are yet by many looked on but as varieties of one disease. But the writings of Dr. Gerhar

M. Valleix, and Dr. A. P. Stewart, have rendered it highly probable that typhoid fever and typhus fever are absolutely distinct from each other,—two species of disease, and not varieties of one affection. In the Monthly Journal of Medicine of the present year the author has analysed the course, symptoms, and lesions of structure, found after death in a certain number of cases of fever; and this analysis, he thinks, proves that, as regards their course, symptoms, and lesions, no two diseases can be more distinct than typhus and typhoid fever. But small-pox, measles, and scarlet fever, differ also in respect of their exciting cause, which in the case of each of these diseases is specific. In like manner, typhoid fever, typhus fever, and relaxing fever, must require for their production the application of distinct specific causes if they be distinct diseases. To inquire whether the specific cause of each of these diseases is distinct, or whether the cause of all these is the same, is the author's object in the present paper. He first describes the peculiarities of the course and symptoms of relapsing fever, and of the skin eruption of typhoid fever, and of that of typhus fever, on which the diagnosis of those diseases rests. He then gives three tables, showing all the instances in which two or more cases of fever were admitted from one house into the London Fever Hospital, in the years 1847, 1848, and 1849, the age, sex, and degree of intimacy of the individuals, as well as the nature of the disease under which they laboured; and, for the years 1848 and 1849, the number of all cases of fever admitted into the Fever Hospital during the separate months, with the rash of typhoid fever and that of typhus fever respectively. The results exhibited in these tables are that in 1847 there were five instances of the admission of two or more cases of typhus fever from the same house, two instances of the admission of two cases of typhoid fever from the same house, and five instances of the admission of two cases of relapsing fever from the same house, and not a single instance of cases of the three diseases, or even of two of them, coming from the same locality. 2. That in 1848 two or more cases of typhus fever were admitted from each of thirty-three houses, and two cases of typhoid fever from each of five houses, while there was only one instance of a case of typhus and one of typhoid fever being admitted from one house, and in this exceptional instance there is reason to believe the patients received their diseases from different sources. 3. That in 1849 two or more cases of typhus fever were admitted from each of eighteen separate localities, and two or more cases of typhoid fever from each of four localities, while in not a single instance was a case of typhoid fever and a case of typhus fever admitted from the same house. 4. That in 1847 the relapsing fever, typhoid fever, and typhus fever, and in 1848 and 1849 the typhus and typhoid fevers, prevailed simultaneously in the metropolis, and nevertheless that the cases of these several diseases came to the hospital from distinct localities. In 1848 there were received into the Fever Hospital 118 cases of fever with the rash of typhoid fever, and 390 with the rash of typhus fever; in 1849, 118 with the rash of typhoid fever, and 143 with the rash of typhus fever. As, therefore, about one-fourth of all the cases of fever admitted in 1848, and nearly half of those admitted in 1849, were cases of typhoid fever, the author argues that, in the numerous instances in which two or more cases were admitted from one locality, cases of typhoid fever ought to have been mingled indifferently with cases of typhus fever in about these proportions in the two years, if the cause of the two diseases were identical, while, as has been shown, from all the localities which yielded cases of typhus there came but one case of typhoid fever. He remarks, moreover, that an increase of the epidemic prevalence of one of these kinds of fevers had no influence in increasing or diminishing the absolute number of cases of the other kind of fever; that no transition cases were observed marking the passage of one epidemic constitution into another; that the rash of typhoid fever and that of typhus fever were not modified in their characters by variations in the prevalence of other kinds of fever; and that the absence or presence of lesion, of Peyer's patches, and the mesenteric glands, always corresponded with the symptoms of the particular cases during life, and did not depend on the epidemic constitution. The author then adduces some particular instances in which a succession of cases coming from the same locality, or apparently arising from the same cause, all presented the same characters. And in conclusion, he remarks that the facts contained in this paper appear to him to prove incontestably that the specific causes of typhus and typhoid fevers are absolutely different from each other, and to render it in the highest degree probable that the specific cause of relapsing fever is different from that of either of the two former.

WESTMINSTER MEDICAL SOCIETY.

December 8, 1849.

F. Hird, Esq. President.

Different Forms of Ulcer in the Intestinal Mucous Membrane which accompany varieties of Dysentery and Diarrhœa in India.

Dr. James Bird brought before the So-

ciety several coloured drawings of ulcers in the mucous membrane of the intestines as they occur in dysentery and diarrhœa within the tropics, and gave an account of the cases from which the illustrations had been taken, Plates 4 and 5 represented dysenteric ulceration, originating in simple inflammatory diffused action of the mucous follicles, or in specific chronic inflammation of the same, following tubercular deposit, in the submucous areolar tissue, in which latter the transformation of the mucous intestinal coat closely resembles the progress of tubercle in the lungs. These two different forms of ulceration give rise to two distinct varieties of dysentery, which Dr. Bird characterized under the names of the *phlogistic* and *cachectic*, requiring very different systems of treatment—general and local bloodletting being of great utility in the former, though very little requisite for the latter, where subnitrate of bismuth, or sulphate of copper, with opium, frequent emollient opiated enemata, blistering of the abdomen, strict limitations to milk and farinaceous diet, with change of air, and other adjuvants, are specially indicated. The first case was one of acute inflammation succeeding a state of chronic irritation, producing dysentery, in which, after death, the mucous and areolar coats of the cæcum and colon were found in a state of hypertrophy, and extensive diffused ulceration of the latter following sloughing of the mucous coat. The liver in this case was mottled, and its white secreting tissue hypertrophied, the interlobular tissue of the liver being in a state of chronic vascularity, which was probably of contemporary origin with the chronic irritation of the submucous tissue of the intestines. In cachectic dysentery, the aggregated or solitary follicles of the intestines are enlarged previous to the inflammation of the mucous membrane which terminates in ulceration. Sometimes in these cases, tubercular matter is deposited in the sub-mucous tissue, producing inflammation and abscesses which burst through the mucous coat. Here the ulcers are of an oval or circular form ; and cream-coloured tubercles, or small distinct abscesses in the liver, complicate this variety of dysentery. The disease proves very intractable, as one set of ulcerated follicles heals up while others become inflamed, and renew the symptoms of dysentery. Case 2 was related in illustration, and along with the ulceration of the intestinal mucous membrane softened tubercles were found in the substance of the lungs. The next case was also illustrative of this form of disease, in which the ulcerations of the solitary glands of the large intestines had a tubercular character, and were associated with great tubercular deposit in the secreting substance of the liver, the interlobular tissue of which was of a deep purple, communicating to the whole the usual appearance of the nutmeg liver, as represented in Plate 2. The last case was one of ulcers of the jejunum, which are of comparatively rare occurrence, so much so, that Andral places them, in respect of frequency, but one degree higher than ulceration of the duodenum. The duodenum and jejunum, at the upper part, were hypertrophied, and the mucous coat of the latter intestine exhibited several small ulcers in various stages of advancement, having their origin, as it appeared, in the follicles of Lieberkahn, accompanied by general diffused vascularity of the mucous coat. In the ileum the patches of Peyer's follicles were generally in a state of ulceration. The cæcal valve was much contracted, and in a state of dark red vascularity, as was also the mucous coat of the colon. The mesenteric glands were enlarged ; the spleen was softened; the liver, which weighed four pounds two ounces, was of a green bilious tinge throught its texture, and exhibited on its surface a mottled appearance of red and white circles, produced by hypertrophy of the white secreting substance, and chronic-red vascularity of the interlobular tissue ; the right lobe contained a small hydatid. There were several grey miliary tubercles (of which some had suppurated) in the upper lobe of the right lung, which was adherent to the costal pleura.

Some of the Relations and Differences between Epilepsy and Puerperal Convulsions.

Dr. Tyler Smith commenced by observing that there was, among obstetric writers and practical men, a common opinion that epileptic persons were more liable than other persons to puerperal convulsions. Reasoning *à priori* it was very natural to conclude that such must be the case, the convulsions being so similar in the two classes of cases. Closer observations, however, showed considerable differences between the two diseases, which he would briefly enumerate. Epilepsy is generally a chronic puerperal convulsion—an acute disease. Epilepsy commonly leads to idiocy ; puerperal convulsions to mania. Asphyxia is more nearly reached in puerperal convulsions than in epilepsy. Epilepsy is a disease of years, puerperal convulsions a disease of hours or days. Epilepsy is connected with the ordinary functions of the body ; puerperal attacks belong to an extraordinary function, of limited duration. In the one, consciousness is generally recovered between the fits ; in the other, the continuance of coma from fit to fit is very common. The treatment required in the two diseases is very dissimilar. In epilepsy there is generally the characteristic aura ; in puerperal convulsions, œdema of the extremities is as common as it is rare in epilepsy. These circumstances must induce us to inquire whether puerperal convulsions ought not to be studied as a distinct and in-

dependent disease, as a variety of convulsion as far removed from epilepsy, as epilepsy was removed from the convulsions of infancy. But the important question, which could only be decided by experience, was—Were epileptics predisposed to puerperal convulsions? The author related four cases of epileptics becoming mothers, which had fallen under his own observation. In one, the first pregnancy and labour had been completed without any convulsion; in the second, two labours had been completed without puerperal convulsions, and the fits were rare during pregnancy; in the two remaining cases, the epilepsy had been very much relieved during the whole of the child-bearing epoch; and in one, ten pregnancies and labours had passed without any convulsive seizure. These latter cases were now near the catamenial decline, and were affected with paroxysmal seizures of an epileptic character. Dr. Smith related the particulars of eleven other cases, which had been supplied to him by Dr. Fleetwood Churchill; Drs. Swayne and Herapath, of Bristol; Dr. Robert Barnes, Mr. W. F. Barlow, Mr. Higginbottom, and Mr. R. U. West. The number of pregnancies in the fifteen cases amounted to about fifty-one. Puerperal convulsions of a decided character only occurred in two labours. In one case there were three attacks of convulsion after the eleventh labour of an epileptic patient; and in another case there was a single seizure the day after one of five labours. Generally, the epileptic attacks were fewer, and in several cases disappeared altogether, during gestation. Thus, the presence of epilepsy by no means appeared to be an active predisposing cause of puerperal convulsions; and, so far as the author's inquiries had extended, there was no tendency in puerperal convulsions to be followed by epilepsy, though it might be the case when organic disease of the nervous centres was induced by the puerperal attacks. Dr. Smith entered upon a consideration of the causes which lead to the amelioration of epilepsy during gestation, referring it principally to the rest from the ovario-uterine excitement of menstruation in pregnancy. He dwelt on the frequency with which epilepsy was connected with the catamenial excitement, many cases occurring only at these periods, and others being aggravated at the monthly date. He also pointed out the infrequency of epilepsy in purely amenorrhœal or chlorotic subjects, and referred to the fact that other disorders dependent upon ovario-uterine excitement, as hysteria and dysmenorrhœa, were relieved by pregnancy. As far as the cases now detailed went, it appeared that marriage was not so much to be dreaded in epileptic females as had been supposed, particularly where the fits were connected with catamenial excitement. It was clearly indicated that in epilepsy great attention should be given to soothe menstrual irritation, and that puerperal convulsions should be studied and treated without any special reference to epilepsy. He had confined his attention chiefly to the facts of the cases which he had observed, or which had been communicated to him, and to the most simple and obvious deductions from them; but if these should be modified by future inquiries, he would take care hereafter to inform the Society.

SOUTH LONDON MEDICAL SOCIETY.

Nov. 22, 1849.

R. R. Robinson, President, in the Chair.

Case of Traumatic Tetanus. By F. Ellerton, Esq.

On the 25th of December, 1848, Joseph Kilburn, a collier, about twenty-four years of age, of a robust, healthy constitution, received the contents of a gun, loaded with shot, at the distance of three or four yards, near the right hip. The charge struck against the crest of the os ileum, about three inches behind the anterior superior spinous process; a portion of it rebounded and returned by the wound, which was of a calibre sufficient to admit the forefinger, about three inches in depth, and took a direction forwards, a few of the shots probably traversing the crest forwards as far as the spinous process, and upwards between the skin and abdominal muscles. A poultice was applied, and on the following day some more of the shot, with a piece of rag, came out of the wound. Was ordered a purge, to be fomented occasionally, and the poultice continued.

Jan. 1st, 1849.—Appeared doing well, the wound discharging healthy pus; a slight swelling and tenderness on pressure, extending two or three inches before and above the wound, where a few shots were probably lodged. No untoward symptoms appeared until the 6th, when he complained of slight shooting pains across the abdomen, proceeding from the right side, which were occasionally severe, attended with slight symptoms of fever; wound still looking well, filled up with healthy-looking granulations, and discharging pus. Ordered warm fomentations to the abdomen. Bowels to be relieved by sulphate of magnesia, and to take as a febrifuge saline every four hours—℞ Liq. Ammon. Acet. ʒij.; Spt. Æther. Nit. ʒss.; Vin. Antim. ♏xij.; Aquæ. ʒj. M.

7th.—The pains across the abdomen continue, occasionally shooting down the thighs; feverish and restless, with hot, dry skin; has had shivering: tongue rather

coated; the bowels continue confined. To take:—℞ Hydrarg. Chlorid. gr. iv.; Pulv. Ipecac. Co. gr. xij. hor. somni; and half an ounce of salts in the morning. To continue the fever medicine and fomentations.

8th.—Bowels relieved, and pains easier. Pulse full, strong, and frequent; skin perspiring; tongue red and patched. The tenderness about the wound continues, the granulations looking paler and the discharge thinner. Feels some stiffness of the right leg and thigh. The limb to be well rubbed, and continue the saline. Was not seen until the

10th.—The right knee now rigidly bent; the thigh flexed on the abdomen, with slight hardness of the abdominal muscles. Some stiffness of the jaws coming on, first slightly felt on the previous night. Bowels constipated; skin freely perspiring; pulse very full and strong, about 90. Being of a plethoric habit and strong constitution, and the head appearing congested, he was bled to ʒxiv. and to take:—Hydrarg. Chlorid. gr. viij.; Pulv. Ipecac. Co. gr. xv. immediately, with the following draught—Ol. Terebinth. ʒj.; Ol. Ricini, ʒvj. ft. haust: to be followed, as soon as the bowels are relieved, by Hyd. Chlor. gr. ij.; Pulv. Opii, gr. ¾, secundis horis.

11th.—Bowels have been freely opened. Occasional spasms of the abdominal muscles commencing, the jaws becoming closed; can swallow without difficulty; the abdominal muscles much distended with flatus. The thigh continues rigidly flexed on the abdomen, the granulations in the wound appearing livid; the discharge from it has ceased, and the healing process arrested. The neck, body, and thigh, to be frequently and well rubbed with the liniment. terebinth. The bowels to be relieved by turpentine enemata, and to take Camphor. Assafetidæ, aa. gr. v.; Opii, gr. j. secundis horis.

12th.—The spasms of the abdominal muscles increase in frequency and severity, attended with great pain, causing the body to be bent forwards, and both thighs flexed on the abdomen; jaws closer; can still protrude the tongue a little, and swallow tolerably well; skin profusely perspiring: no sleep induced by the opium. The bowels are relieved by the injections. To continue the medicines.

13th.—The spasms now occur every three or four minutes, with great severity. Abdomen very hard; bowels filled with flatus, and act only by injections of turpentine and castor oil; jaws more closed; the tip of the tongue only can be protruded, with the characteristic grinning expression; surface of the whole body bathed in perspiration; no sleep; pulse about 90. The patient cannot bear to lie on his back or on either side; legs to be supported in a sitting posture in a chair, when he says he feels easier, and the spasms are less frequent. Diet has been milk, porter, and beef tea, ad libitum, since the trismus commenced. Passes his urine without difficulty; rather concentrated and high coloured, owing to the profuse excretion from the surface. To continue the camphor and assafetida, with Opii, gr. iss. quaque secund. hor.

14th.—The spasms now affect the diaphragm, causing temporary cessation of respiration, and influencing the heart's action. The pulse, though from the latter cause less regular, is by no means weak. Jaws now quite closed, the upper incisors projecting beyond the lower; can get the edge of a cup between, and still swallow tolerably well, though with more difficulty than before. Slight opisthotonos now coming on; the rigid state of the thighs rather relaxed; no sleep; face pale, with a worn-out expression. Says he cannot take the assafetida any longer. (Chloroform was now proposed and tried; but, as soon as the patient began to experience its effects, he refused to submit to its continued use.) To take Camphor. gr. iv.; Morphiæ Acetat. gr. ½; Mist. Acaciæ, ʒj. secundis horis.

15th.—Opisthotonos increasing; jaws continue closed; the spasms of the abdominal muscles and diaphragm less severe and frequent, the former continuing uniformly hard; the thigh and leg more relaxed, and become generally tumid; continues to sweat freely, and has had no sleep. To have an enema of tobacco—ʒss. to a pint of water, infused fifteen minutes; being prepared, half was administered, which returned almost immediately, with the expulsion of much flatus. It was repeated with the same effect, after being retained a short time, but without causing the slightest nausea. ʒiv. to be administered every four hours (made of ʒj. ad lb. j.) and its effects noticed. To increase the morphia to gr. ⅔ 4tis horis.

17th.—The jaws are slightly relaxed; the tobacco enemata have not produced any nausea, being retained only a short time, but causing the expulsion of much flatus each time it was injected. The opisthotonos continues of a clonic character, with occasional severe clonic spasms superadded; is easiest sitting up, with the head supported and kept forwards, which, by the kind attention of his family, was done without intermission, day and night. Appears extremely worn out; seems to doze in the intervals of the spasms of the abdominal muscles and diaphragm, which are becoming less frequent, and says the pain is diminished by the morphia, but he has no refreshing sleep. Profuse sweating continues.

An eruption is now coming out, thinly scattered over the chest and abdomen, and a few on the right thigh: it appeared at first

papular, the skin being very slightly elevated, and afterwards assumed the appearance of pustules, but filled with a thinner or semipurulent matter, and about the size of a millet-seed.—To continue the Morphia and Tobacco injections. Diet: porter, beef-tea, &c. ad libitum.

18th.—Jaws again quite closed; the clonic spasms affecting the diaphragm and muscles of the back less severe; pulse irregular and weaker; complains of a confused sensation in the head from the morphia, but gets no sleep; can still swallow.—To have half a pint of the tobacco administered three times a day, of the following strength: 3ij. to a pint, and infused one hour. To take the morphia every six hours.

19th.—The spasms in the back have become again more frequent. The tobacco does not nauseate, but affords much relief by expelling a large quantity of flatus only. The fæces to be evacuated by the following pills:—℞ Ol. Tiglii, ℥viij.; Extract. Colocynth. Co. ℈ij. M. Fiant Pilul. xij. To take two or three occasionally. To take the Morphia every four hours as formerly. A general and uniform swelling of the leg and thigh continues, extending up over the abdomen; the clonic spasms of the abdominal muscles are less frequent and severe, the hardness or tonic rigidity remaining; the eruption also continues; the leg and thigh now much relaxed.

21st.—Continues much the same; pulse not to be called weak, but varying in regularity and frequency. The croton oil acts powerfully: the patient expresses much relief from its keeping the bowels well evacuated. Morphia has no effect in causing sleep.—To increase the strength of the tobacco to ℥ss. to the pint: infuse an hour. Half a pint to be administered morning, noon, and night, and to be retained if possible.

23d.—Has continued since the 19th without much variation until now, when the spasms, both in severity and frequency, are decidedly abating; the opisthotonos continuing, but less rigid. The tobacco has made an impression, but only slightly nauseating, and he gets a little broken sleep at intervals. His strength has throughout kept up wonderfully well, supported by as much porter, beef-tea, &c., as he could swallow. The skin not so profusely perspiring as before; has made water regularly all along; the wound has not altered in appearance since the 12th; bowels kept open by the croton oil pills: will not act without them. The fæces generally dark and very fœtid.—To continue the morphia and tobacco as before. This is the first day of a decided improvement, being the fourteenth since the trismus commenced.

25th.—The spasms now occur only every quarter or half hour, and have almost entirely left the abdominal muscles, which continue, however, hard and unyielding; the eruption has gradually disappeared since the 19th, being eight days from its first appearance on the 17th.

30th.—The disease has been gradually giving way the last four or five days; the jaws are now a little separated; the spasms have entirely left the diaphragm, and the opisthotonos relaxing; patient has always continued in a sitting posture in a chair, and has slept at intervals, which has acted like a charm in restoring the countenance from its late haggard and worn-out expression.

Feb. 2d.—Can separate the teeth half an inch; spasms occur at intervals of an hour, or two, or more; sleeps now for two or three hours together; pulse regular; urine deposits copious sediments of all its solid constituents. Tobacco now nauseates.—To continue the morphia, and a milder tobacco enema night and morning.

6th.—Has now only two or three spasms during the day; neck much relaxed; one inch between the teeth; a slight but general swelling continues over the ankles, legs, thighs, hip, and extending over the body, up to the neck and back; all the parts to be frequently and well rubbed with the hand or a little oil. To take the morphia every six hours.

13th.—Has had no spasms for some time; sleeps well; can bend the head forwards, and open the mouth wide; tongue moist and clean; swelling in the leg diminishing. To leave off the tobacco altogether, and to take the morphia every night and morning. To omit the porter by degrees. The trismus now quite gone, being about twenty days since it began to give way, and thirty-four since its commencement. The tobacco, morphia, &c., have their usual effect. A contraction of the hamstring muscles, which again came on the 6th, threatening a return of the disease, is now quite relaxed.

20th.—Has continued to improve since the 13th: an eruption, smaller than the first (being in size rather larger than a pin's head), more numerous and generally diffused over the whole body, has again made its appearance, containing a similar semi-purulent matter: the wound now again slightly discharging, and beginning to heal up; the urine and other secretions natural: bowels, if necessary, to be relived now by castor oil. To take the morphia only at bed-time; can walk about.

30th.—The eruption has been gradually disappearing; the general swelling subsiding; a slight stiffness of the jaws and neck remaining since the 13th, is now going off; takes regular exercise, and feels in all respects quite well.

Remarks.—There are a few features in this case which may be worthy of remark and consideration. It appeared from the commencement to be a case favourable for recovery. The period which elapsed, fourteen or fifteen days, before any symptoms of the disease made their appearance; the slowness with which, compared with their usual march, they progressed; and the naturally robust and healthy constitution of the patient, afforded ground for the most sanguine hopes, which were still further encouraged when it was found that the symptoms of the disease, when arrived at its acme, were far from exhibiting it in its severest form, and when the strength of the patient could be so well maintained by his being able to partake in considerable quantity, and without much difficulty, of the necessary pabulum vitæ—an ability rendered to him more easy by the providential fact, that when the molar teeth were set in close contact, there was still room left between the upper and lower incisors to introduce by degrees any amount of liquid food. To these circumstances chiefly, under God's blessing upon the general means used, his recovery may be attributed.

Tobacco.—The great tolerance of all remedies acting directly upon the nervous system in tetanus, is remarkable; that of the tobacco, in this case, was certainly very great. We need not conclude, I think, that, because little or no impression appears to be made by such powerful remedies, no benefit at all is to be attributed to them; but we may reasonably suppose, where the symptoms do not rapidly increase in severity under their employment, that the disease, however little manifest their effects, may be somewhat checked, and kept in abeyance by their use. It was found, as the tetanic spasms gave way, that the tobacco, morphia, &c., each had their ordinary powerful effect.

The croton oil was very useful in evacuating the fæces, whereas the enemata only relieved by causing the expulsion of large quantities of flatus.

Eruption.—This was an attendant of the disease in this case, not, as I imagine, a consequence of the disease itself, but rather of the unhealthy condition in which the blood must almost necessarily get under the circumstances, where the secretions are liable to become vitiated, and the functions of the several organs more or less deranged, from want of exercise, an unnatural course of diet, and the whole nervous system being deprived of all rest, whereby its due influence over animal and organic life is impaired. The eruption itself was peculiar; vesicular, inasmuch as it did not involve the destruction of the cutis vera, but pustular as regarded its contained semi-purulent matter. It occurred twice in the course of the disease; first on the 17th of January, eight days after the first symptoms of trismus, and when the disease was at its height, disappearing in the course of eight or nine days, and again about the 20th of February, more than three weeks after the first, and one week after every symptom of tetanus had disappeared. We frequently find eruptions critical where infected blood itself is the disease, but in this case there was no abatement of the spasms until nearly a week after its appearance: on the contrary, on the two following days they were worse. The second eruption, which was more generally diffused and closer set than the first, appeared also a repetition of the same effort of the system to throw off the impurity of the blood, when it had again attained a maximum requiring that effort. They were not sudamina. *Swelling.*—This was not at all of an œdematous character, but possessing a degree of firmness and elasticity, and uniformly diffused over those parts in succession which had been affected with the spasms. I cannot offer an explanation of its existence, unless it be a consequence of determination of blood to those parts so affected, which possibly leaving some abnormal deposit, afterwards gradually removed by absorption, might, superadded to the rigid condition of the muscles, probably be sufficient to cause the kind of swelling. It appeared first in the right thigh and leg, about eight days after they became rigidly contracted; and here it also first subsided. It became by degrees general, and attained its maximum about the 6th February, as the disease was giving way, and had not altogether subsided until three or four weeks after the cessation of all spasm, and some time after the eruption had quite disappeared, and the patient began to take exercise.

Nature and cause of the disease.—The following questions are advanced to induce experimental research among those who have facilities for employing the powers of galvanism in cases of this interesting disease:—

Has tetanus anything to do with the electricity of the body?

May it not depend upon some undue exaltation or diminution of the force of the electric currents traversing the neurine fibres, or an irregularity or interruption of their course, destroying the due balance of electrical equilibrium? This idea seems suggested and corroborated by the fact of the tetanic motions or conditions of the muscles being analogous to those produced by galvanism; and if so, to what are we to look as usually exciting causes of this disease? and how do such dissimilar causes, to which it has been referred, operate in producing the same effects, the same electric excitement or disturbance?

Was the exciting cause in this case the supposed presence of a few small pieces of lead?

May not the electrical condition of the muscular fibres themselves be disturbed or altered in tetanus, as well as that of the nerves; and may not this account for the two different kinds of spasm, the tonic and clonic?

In concluding these remarks on this case, I must say that I do not ascribe at all the patient's recovery directly to any of the remedies employed, as they do not appear capable of grappling with the peculiar character of the disease, or even of arresting, in any marked and appreciable degree at least, its progress, though at the same time I cannot altogether deny them, as has been remarked, an influence of some kind in subduing the severity of the symptoms, by depressing and tranquillizing perhaps the whole nervous system; and we can say at least this of them, that where cases do recover, they (I allude to morphia and tobacco) have been the remedies most frequently used.

It is, however, a pleasing satisfaction to know that we can in some degree afford relief to the patient's sufferings, and moreover, we may encourage ourselves with the hope that the disease, when we meet with it under favourable circumstances, where the strength can be sufficiently maintained by nourishment, may, as I believe in this case it did, so to speak, wear itself out.

Correspondence.

ALLEGED PROPAGATION OF CHOLERA BY EPITHELIUM CELLS.

In your number for November 29th, page 928, I observe Dr. Snow, in a note attached to his interesting paper on the Pathology and Mode of Communication of Cholera, says:—"I am indebted for the idea of the epithelium cells conveying the poison, to Dr. Lankester, who, indeed, thought I had suggested it." As neither of these gentlemen lay claim to the parentage of the suggestion, probably each might have borrowed it unwittingly from a third party. As I believe I was the first who made the suggestion, I beg to refer to the number of the Provincial Medical and Surgical Journal for January 24th, 1849, page 37, in which the conveyance of the poison by the morbid epithelial cells of Böhm is first pointed out. After describing the microscopical examinations of the rice-water evacuations, he concludes that the cells consist of the debris of the epithelium of the mucous membrane of the digestive canal. I have remarked on this—"We think it highly probable that these *morbid cells generate the specific poison of cholera*; and the fact of a camp thus contaminating those who are within the circle of the fæcal evacuations, (*not from ordinary putrefaction and decomposition, which does not produce Asiatic cholera)* re-infecting those who shortly after occupy the same position, connected, as it has often been, with the additional fact of the cessation of the disease on frequent removals of bodies even into new and uncontaminated districts, all seem to corroborate an inference we draw from an *undisputed pathological phenomenon*. We are fortified in this view, too, by the acknowledged danger of a residence near the mouths of sewers when the disease has once made its appearance, and the great fatality and frequency of the disease in those cities where dirty privies (not water-closets) are situated within the houses, as in Paris, where the first, second, third, fourth, fifth, and even sixth floor has a foul nest of contagion of this character."

I shall be happy to yield to any priority of suggestion, if it can be pointed out by the date of any published document of Dr. Snow or Dr. Lankester.

Since this was written the epidemic has again passed over Paris, with a mortality rivalling the last. The history of the epidemic in Great Britain has yet to be written; for the mere registration of the reports of the Board of Health and the Registrar-General are too meagre to found any safe deductions concerning the laws of this disease.

The ingenuity with which Dr. Snow has worked out his hydropathic theory of cholera communication deserves our warmest commendation, and I believe he is perfectly original. He is candid enough, however, to admit other modes of communication, which probably have been too slightingly passed over in his zealous pursuit of a new idea. The experiments of Mr. Swayne, Mr. Brittan, and the other members of the Bristol Microscopical Committee, appear to me to require a more diligent investigation than they have yet received. Because the cholera cells resemble the uredo segetum, we are not to conclude they really consist of the same bodies. Vegetable and animal structures, in their ultimate analysis, are very nearly allied in form. Pus, mucus, and lymph, present an identity of cell-like character, though they are very different in their progress and development. I have now under examination, by a one-tenth of an inch achromatic lens of Prichard, a specimen of Mr. Swayne's cholera cells, the uredo segetum obtained from some diseased wheat, the dried lymph of the vaccine as well as the small-pox vesicle. In each and all I

perceive distinct simple and compound cells, or cytoblasts, very nearly allied in structure and appearance, though so varied in their origin and effects. If chemistry is obliged to recognise an isomorphism in crystals of totally different composition, I think I am not asking too much of microscopic anatomists to introduce a similar term, at least provisionally, until further investigation shall enable us to distinguish the allied organic forms with accuracy. Having had no cholera cases within a radius of fifteen miles, I have had no opportunity of testing Mr. Swayne's investigations. This, at any rate, proves that no general atmospheric influence pervading the air of England has been the cause of the epidemic of the past year.

I am indebted to the kindness of Mr. Swayne for his specimen of cholera evacuation, and I cannot but admit that there is *primâ facie* an extreme improbability that such myriads of uredo cells can be found in gallons of rice-water fluid where no bread has been eaten for some days, and the contents of the intestines have been long completely evacuated. It appears to me, however, that both parties have omitted a most important point of the investigation—the microscopical examination of the mucous membrane of the small intestines, which appears to furnish the supply of the rice-water fluid. The fungoid theory was too hastily put together by Dr. Budd; but the facts of Mr. Swayne require a more careful sifting than they have yet received at the hands of the microscopical gentlemen who have reported to the College of Physicians.

I am, sir,

Your obedient servant,

E. O. Spooner.

Blandford, Dec. 10, 1849.

OBSTETRIC PRACTICE IN EDINBURGH. THE USE OF CHLOROFORM.

Sir,—On reading in a late number of your journal, the able and interesting lecture of Dr. Barnes, "on the rational and safe conduct of labour," I was struck with the fact of the gradually increasing mortality from childbirth in Edinburgh during the years 1847 and 1848, having been exactly coincident with the introduction of chloroform and its extensive use in midwifery in that city. From Dr. Barnes's table it appears that in 1846 the proportion of deaths in childbed in Edinburgh was 1 in 116; in 1847 it had increased to 1 in 97; while in 1848 it had risen to 1 in 91. The *Record* newspaper, a few weeks since, *in leading article type*, brings forward some strong reasons "*to quicken medical men in other parts of the world as to the benefits of chloroform in midwifery*," the chief of which is, that a few ladies with high sounding titles await in Edinburgh their approaching accouchement, drawn thither by the fame of chloroform, and it may be by such puffing paragraphs as that which makes mention of these things. We need have no fear, however, with such statistics as those of Dr. Barnes before us, that our professional brethren will be turned from the performance of the duties of their high office by any such considerations, even if they could look for the most abounding newspaper laudation as a reward. The following is extracted from the *Record* of Nov. 12:—

"Chloroform.—It is generally known that no inconsiderable opposition to the use of this specific for pain under surgical operations and in female accouchements, is offered in the metropolis, and in many parts of England, as well as in France. In the Scottish metropolis, on the other hand, no such scruples exist. It is freely used on all occasions. . . . The effect of this difference of perception among the medical men of the two capitals, is operating in a way which we presume the opponents of chloroform did not anticipate, but which we think the most natural in the world. In a letter which we have seen from Edinburgh, it is said 'Professor Simpson's share in its introduction is operating favourably on his own position and on that of this city. The Duchess of Argyle and Lady Blantyre are both expecting their confinement ere long, and with their mother, the Duchess of Sutherland, have taken large mansions in the town or neighbourhood. Besides these, there are others, titled and not titled, who have done the same; so that Edinburgh will be the gainer. 'Its great utility,' continues the writer, 'is, in this part of the world, considered altogether established.' Such facts as these will probably quicken the perceptions of medical men in other parts of the world as to the benefit of its use. Every improvement of the kind has to encounter great opposition. No medical man who had attained the age of forty years at the time of Harvey's discovery of the circulation of the blood, ever believed the fact."—I am, sir,

Yours obediently,

A. B. C.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 13th December, 1849:—Edward Pinder—Sturley Payne, Bury St. Edmunds—Robert Gething, Newport, Monmouth—William Harrison, Bedford.

Medical Intelligence.

UNIVERSITY OF LONDON.

M.B. SECOND EXAMINATION.—1849.
EXAMINATION FOR HONOURS.

Tuesday, Nov. 20.—Morning, 10 to 1.

Physiology and Comparative Anatomy.

Examiner, Dr. CARPENTER.

1. What are the chief points of structural difference between *Man* and the higher *Quadrumana?*

2. In what way is the *Circulation* of the blood affected by suspension of the Respiratory process in a warm-blooded animal; and what is the immediate cause of death if that suspension be continued?

3. Give an account of the principal phases of development of the *Nervous Centres* in Man; and state how far these correspond with the permanent conditions of the same organs in the lower animals.

Afternoon, 3 to 6.

1. In what manner are *Vocal Sounds* produced in the Larynx; upon what acoustic principles may their production be explained; and in what way are they modified by the actions of the several muscles which form part of the laryngeal apparatus?

2. Describe the principal varieties in the structure of the *Kidney*, and in the mode in which it is supplied with blood, in the different classes of Vertebrata; and give an account of the history of its development in Man.

3. What is the normal composition of the *Urine* in Man; what are the probable sources of each of its principal components, and how far are their respective proportions liable to be influenced by mental or bodily exertion; what reason is there to suppose that these components pre-exist in the blood; and what are the consequences of an entire suspension of their elimination?

Wednesday, Nov. 21.—Morning, 10 to 1.

Surgery.

Examiners, Sir STEPHEN L. HAMMICK and Mr. CÆSAR HAWKINS.

1. What is a Cataract? Describe the probable causes, and the periods of life at which it most commonly appears. Give the symptoms of a Cataract, from its earliest threatenings to its final formation, as also the diseases with which in its first stages it may be confounded. Enumerate the varieties of Cataract, with the favourable and unfavourable circumstances for an operation; and describe the condition of the Eye, and general health, which forbid one. Detail the different modes of operating, mentioning the one you would prefer, with your reasons for such preference in different cases: give the preparatory and subsequent treatment, both locally and generally, through the various stages, up to the termination of the case, either in a perfect or partial recovery of sight, or in total blindness.

2. Describe the situation and method of performance of each of the various operations which may be required for the partial or complete removal of one or more of the tarsal or metatarsal bones in injuries or diseases of the foot, with the favourable or untoward symptoms which may arise after such operations.

Afternoon, 3 to 6.

1. Describe the local and general treatment of a lacerated wound of the scalp: give the distinguishing marks of common and erysipelatous inflammation attending such an injury: and when the external wound is succeeded by inflammation of the brain and its membranes, you will detail the symptoms and the treatment of its varieties, through their several stages, up to a favourable or fatal issue, giving such appearances as you will expect to find within the head after death; according to the symptoms which you have had to combat in the progress of the case.

2. Describe the symptoms and appearances of fractures of the Os Innominatum;—when the injury is confined to the Crista; when the fracture passes across the bone, behind the Acetabulum; when it extends through some part of that cavity, or through some portion of the Pubis or Ischium in front of it, whether on one or both sides of the pelvis. Mention the treatment, both locally and generally, required for these several varieties of fracture, and the probable termination of the cases.

Thursday, Nov. 22.—Morning, 10 to 1.

Medicine.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Describe the anatomical characters of cerebral softening. Sketch the symptoms, tracing them from the early to the advanced stage of the disease.

2. Explain the pathological changes in contraction of the chest after pleurisy.

3. Describe the various forms of inflammation of the kidneys, their anatomical characters, symptoms, and treatment.

Afternoon, 3 to 6.

Medicine.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Describe the pathological causes of abdominal dropsy, with the indications to be kept in view in the treatment.

2. Sketch the more important secondary diseases that occur in the progress of continued fever.

3. Describe the various forms of dyspepsia, including an account of the secondary or remote affections induced by gastric disorders. Give an outline of the treatment.

Friday, Nov. 23.—Morning, 10 to 1.

Midwifery.

Examiner, Dr. RIGBY.

1. Describe the different species of deformed pelvis.

2. Describe the symptoms, causes, and treatment, of prolapsus of the funis.

3. Describe the causes and treatment of retained placenta.

4. Enumerate the sources of danger to mother and child in precipitate labour.

M.D. EXAMINATION.—1849.

Monday, Nov. 26.—Morning, 10 to 1.

Examiner, Mr. BURCHAM.

Bacon and Stewart.

1. Enumerate the different *Idola* mentioned by Bacon, and point out the causes or sources of the *Idola Tribus*.

2. Into what three kinds does Bacon divide false philosophy? Give instances of each.

3. The causes of error in philosophical inquiry specified by Bacon. The causes of the slow progress of human knowledge, and especially of mental philosophy, specified by Stewart.

4. Distinguish between the original and acquired perceptions of sight. How do you account for our seeing objects erect by means of inverted images on the retina?

5. Enumerate the laws which regulate the succession of our thoughts. What is meant by *simple* and by *relative suggestion?*

6. Is the Moral Faculty an original principle of our nature, or is it resolvable into any other more simple principle or principles? Give your reasons for or against either opinion.

Afternoon, 3 to 6.

Cousin and Butler.

Examiner, REV. H. ALFORD.

1. Give a general account of the Essay on the Human Understanding; specifying its place in the history of Philosophy, the school to which its author belongs, its principal divisions and positions.

2. How does M. Cousin state the order in which psychological inquiries should be undertaken? Has Locke observed this order?

3. "Ma conclusion, que je ramène sans cesse, est que Locke prend évidemment la conséquence pour le principe, l'effet pour la cause. Et remarquez que cette confusion est une nécessité du système de Locke."

Translate this, and exemplify it in the various instances elsewhere adduced by M. Cousin.

4. Define, according to Locke, simple and complex ideas:—give M. Cousin's remarks on this definition, and your own criticism of them.

5. "En général, l'école *sensualiste* est *nominaliste*, et l'école *idéaliste* est *réaliste*. Des deux côtés toujours de l'incomplet et de l'exclusif; moitié vérité et moitié erreur."

Translate this; explain *fully* the words in italics,—and M. Cousin's assertions regarding the two schools.

6. What is ANALOGY? Is Butler's argument a fair application of it? Is the following?—

"Atqui, ne corporis quidem morbos veteres et diu auctos, nisi per dura et aspera coerceas: corruptus simul et corruptor, æger et flagrans animus, haud levioribus remediis restinguendus est, quam libidinibus ardescit."—TACIT. *Ann.* iii. 54.

7. Give the substance of Butler's remarks on the government of God by rewards and punishments; and of his general conclusion to Part I. of his Analogy.

Commentary on a case in Medicine—Celsus de Re Medica—Case in Medicine.

Examiners, Dr. BILLING and Dr. TWEEDIE.

W. S., æt. 19, when he applied for advice, stated that about fifteen days previously, without evident cause, he became indisposed with general symptoms of fever, followed by pain in the right lumbar region, and dry cough. His skin was hot, his pulse quick and sharp, his tongue furred, with loss of appetite and thirst; his bowels were regular, but his urine was scanty and of a deep red colour. When placed on his back, he complained of sensation of tightness and disagreeable pressure, with increased cough, and on deep inspiration, of pain in the right side of the chest about the inferior angle of the scapula. On the following day he felt acute pain in the right hypochondrium stretching to the loins, which was, however, relieved by the application of a blister, and the cough, which had somewhat abated, was accompanied by slight expectoration. A day or two afterwards, on examining the chest, a gurgling sound, extending from the inferior scapular region to the right hypochondrium, was distinctly audible on inspiration and coughing. General anasarca supervened and increased somewhat rapidly. In the course of the next few days, the expectoration became decidedly purulent, and of a greenish colour, followed by copious general sweating and marked diminution of the dropsical effusion. The strength, how-

ever, declined, the cough became less frequent, the expectoration ceased, the breathing was laborious and hurried, the pulse small and rapid, the urine suppressed, the face and extremities livid, and death soon followed.

What was the nature of this disease? What appearances would you expect to find on examination of the body after death? What treatment would you have advised?

Sed inter hæc quidem, proposito metu. spes tamen superest: ad ultima verò jam ventum esse testantur nares acutæ, collapsa tempora, oculi concavi, frigidæ languidæque aures et imis partibus leniter versæ, cutis circa frontem dura et intenta, color aut niger aut perpallidus: multòque magis, si ita hæc sunt, ut neque vigilia præcesserit, neque ventris resolutio, neque inedia. Ex quibus causis interdum hæc species oritur, sed uno die finitur: itaque diutius durans mortis index est. Si verò in morbo vetere jam triduo talis est, in propinquo mors est: magisque, si præter hæc oculi quoque lumen refugiunt et illacrymant; quæque in iis alba esse debent, rubescunt; atque in iisdem venulæ pallent, pituitaque in iis innatans novissimè angulis inhærescit; alterque ex his minor est: iique aut vehementer subsederunt, aut facti tumidiores sunt; perque somnum palpebræ non committuntur, sed inter has ex albo oculorum aliquid apparet, neque id fluens alvus expressit: eædemque palpebræ pallent, et idem pallor labra et nares decolorat: eademque labra et nares, oculique et palpebræ, et supercilia, aliquave ex his pervertuntur; isque propter imbecillitatem jam non audit, aut non videt. Eadem mors denunciatur, ubi æger supinus cubat, eique genua contracta sunt: ubi brachia et crura nudat et inæqualiter dispergit, neque iis calor subest: ubi hiat: ubi assiduè dormit: ubi is qui mentis suæ non est, neque id facere sanus solet, dentibus stridet: ubi ulcus, quod aut antè, aut in ipso morbo natum est, aridum, et aut pallidum aut lividum factum est.

Commentary on a Case in Surgery.

Examiners, Sir Stephen L. Hammick and Mr. Cæsar Hawkins.

"T. K., æt. 19, a blacksmith, applied this day for relief. He stated, that some months ago he had been affected with violent cough, accompanied by severe pain in the side, and expectoration, for which he had been bled, blistered, and salivated. He told me his medical attendant had pronounced him in the last stage of phthisis, and said it was impossible he could live many days. He breathed with great difficulty, had a troublesome cough, and expectorated pus: his pulse was 140, face flushed, and his fingers presented the most truncated extremities I ever saw. On examining the chest, I found a preternatural expansion of the left side; upon pressing the intercostal spaces, they felt distinctly distended, and gave me the impression that fluid was contained in the cavity of the pleura; there was also great dulness on percussion, and a total absence of the respiratory murmur over that side. I resolved to perform the operation of tapping, believing it to be the only means of saving him. After making an incision through the skin with a scalpel, I cautiously introduced an hydrocele trocar between the sixth and seventh ribs, about their junction with the cartilages, the point where the distension appeared greatest, and drew off about four pints of well-formed, bland, and inodorous pus. In a few days the irritative fever subsided, under the usual treatment, and afterwards, by the use of a generous diet, and quinine, he rapidly recovered his health and strength, but matter continued to discharge through the wound, which had become fistulous, for many weeks: I have seen this patient to-day, after an interval of nearly seven years; he appears in good health, is free from cough, and his strength is unimpaired. There is great contraction of the left side, from the dorsal vertebræ to the middle of the sternum. The affected side measures thirteen inches and a half; the sound, or right side, twenty inches."

In commenting on this case, you will give your opinion of the nature of the disease, and your reasons for this opinion; you will describe the symptoms which indicate the existence of fluid in the pleura, and in what manner you can distinguish between Empyema, Hydrothorax, and Pneumothorax; you will point out such cases as in your judgment require the operation of Paracentesis Thoracis, and describe the manner in which it should be performed; you will state the bearing of a fistulous opening on the success of the operation, and describe the probable condition of the contents of the thorax indicated in the latter part of the case.

Commentary on a Case in Midwifery.

Examiner, Dr. Rigby.

Mrs. T., ætat. 36, primipara, short, very stout and plethoric. Labour pains commenced early on the morning of the 24th, at the full period of her pregnancy: they appear to have been regular, and dilated the os uteri to about two-thirds, but became feeble and slow towards the afternoon. As evening approached the membranes broke, and so far from the os uteri dilating further, it contracted somewhat, its edge remaining thin and tense. At 8 o'clock, when out of bed, she was seized with a fit, during which she was much convulsed, the convulsions

commencing in the face, and passing into the extremities; lasting three or four minutes, and leaving her in a stupid and somewhat comatose state; she was bled to about ℥xvj., the pulse became softer, but uterine action was nearly suspended. She had two more fits before midnight. At 1 o'clock A.M. the os uteri was thick, soft, and fully dilated posteriorly, but a considerable portion of the anterior lip was still thin and undilated. The head was in the cavity of the pelvis: its posterior fontanelle towards the left foramen ovale. It was determined to apply the forceps, and from the position of the head, and the obesity of the patient, it was considered desirable to use the long forceps. Much difficulty was experienced in introducing the blades, partly on account of the undilated state of the os uteri, and partly on account of her unruly movements, she not being quite sensible. The forceps was at last fixed in the right direction, and gentle traction commenced. The practitioner held the handles with one hand, whilst he pressed against the lock of the instrument in a direction backwards with the other. By degrees the head came down; it was a good deal elongated, but there was no caput succedaneum: the child was dead, the cord brown and flaccid.

1. What was the nature of the fits?
2. What were the predisposing and exciting causes of them?
3. State your opinion of the treatment adopted. Did the practitioner do enough in merely bleeding her? Was he justified in applying the forceps before the os uteri was fully dilated?
4. In what position was the child's head?
5. If the forceps was applied correctly, what was its position as regards the pelvis? Why did the practitioner direct his extractive efforts downwards and backwards at first, instead of downwards and forwards in the axis of the inferior aperture of the pelvis?
6. Have you reason to suppose that the child had died *during* labour?

Tuesday, Nov. 27.—Morning, 10 to 1.

Medicine.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Explain how facial palsy is to be distinguished from palsy of the face arising from cerebral disease.
2. Describe the different forms of chorea, with the various plans of treatment that have been recommended.
3. Describe the symptoms of pneumonia general and local, its anatomical characters, diagnosis, and treatment.
4. Describe the more important organic diseases of the stomach, with the diagnostic symptoms of each.

Afternoon, 3 to 6.

Medicine.

Examiners, Dr. BILLING and Dr. TWEEDIE.

1. Describe the anatomical characters of cirrhosis. Explain its nature and consequences. Sketch its treatment.
2. When blood is discharged by the urethra, mention its sources, and the circumstances which determine the diagnosis.
3. Distinguish narcotic poisoning from apoplexy, and other cerebral diseases accompanied by coma.
4. Describe the diagnostic symptoms, nature, and treatment of angina pectoris.

ELECTION OF EXAMINER AT THE ROYAL COLLEGE OF SURGEONS.

MR. CÆSAR HENRY HAWKINS, of St. George's Hospital, has been elected a member of the Court of Examiners, in the vacancy occasioned by the decease of Mr. John Goldwyer Andrews, of the London Hospital. Mr. Hawkins took his seat at the board on the 14th inst., when the following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College:—Messrs. John Burdett Steward, Birmingham; John Willington Clement, Pocklington, Yorkshire; Charles Augustus James Tompson, St. Helen's, Lancashire; Henry Horlock, Newport, Isle of Wight; Crosby Leonard, Bristol; Nathaniel Crisp, Bristol; Edward Akers, Halifax, Yorkshire; Alfred Howse, London; Charles M'Leod Murray, Sudbury, Suffolk; and Daniel Meadows, Witnesham, Suffolk.

MEDICAL APPOINTMENTS.

DR. RADCLYFFE HALL, of Clifton, has been elected Physician to the Bristol General Hospital, in the place of Dr. Beatty, resigned.

DR. R. CHAMBERS has been elected Physician to the Dispensary for Consumption and Diseases of the Chest, Margaret Street.

OBITUARY.

On the 4th of October, at Goruckpore, William R. Glennie, M.D., H.E.I.C.S., third son of the late Alexander Glennie, of Maybank, Aberdeen.

On the 26th ult., at New York, after a few days' illness, David Scott Meikleham, Esq., M.D., aged 45, on of the late Professor Meikleham, of Glasgow College.

Selections from Journals.

DEATHS FROM SUFFOCATION, HANGING, AND STRANGLING. POST-MORTEM APPEARANCES. BY DR. CASPER.*

The bodies of three men who had died from the same accident were examined, and in all three the signs of suffocation were strongly marked. They had been sitting together in a cellar, the roof of which gave way, and they were buried in the ruins which fell in upon them. Only one had suffered any local injury; viz. fracture of the femur. The eldest was thirty-six years of age, and of a strong constitution. The body was of a deep red colour and bloated; the tongue lay behind the teeth, though both lungs were loaded with dark fluid blood; the right ventricle of the heart was only partially filled by the same fluid, and the left ventricle contained even less. The evidences of suffocation were strikingly exhibited in the air tubes; the mucus which filled the trachea and bronchi was tinged of a deep red colour. This redness of the mucus is a constant result of suffocation. The brain, liver, spleen, and kidneys, were all congested: the latter organ is invariably more intensely congested than any other of the abdominal viscera in death by suffocation.

The appearances were much the same in the other bodies;—the tongues were protruded from the mouth. In one the face was purple and swollen; the mucus of the bronchi was of a less deep red colour. In the third, the youngest, 20 years of age, the same appearances were found, except that the lungs were more loaded, and the veins of the abdomen as well as those of the brain were more congested.

A widow, seventy-two years of age, living by herself, was found murdered in her house. About ten o'clock one morning smoke was observed to issue from the windows of the house. The door was fastened, and on effecting an entrance by the window her room was found to be full of smoke; the straw of her bed was burnt, the key of the door was missing, and on a stool in the sitting posture was the body of the widow, who had apparently been strangled. At the distance of several feet from where she was sitting a hook had been driven into the wall, from which hung a linen cloth twisted to about the thickness of the little finger. The chests in the room were found opened and rifled of their contents.

The body was examined four days after death. A deep mark as of strangulation was found round the throat, and the countenance was of a purple colour. The slightly swollen and blue tongue protruded from between the jaws; the hands and nails were blue; on the left cheek was a slight superficial wound; on the nose and in the mouth were spots of blood; the lips were blue, and on the upper lip an ecchymosed spot the size of a pea. Around the neck, from the posterior edge of the sterno-cleido muscle to the anterior edge of the muscle on the right side, was a mark in some places a quarter of a line deep and one third of an inch wide, of a dirty yellow brown colour. In front of the throat these marks of strangulation were much fainter. At the angles of the jaws bruises were observed. The characteristic appearances were found within the body. The lungs were congested, as were also the right side of the heart and the coronary veins. The bronchi, trachea, and mouth, contained frothy sanguincous mucus. The vessels and membranes of the brain were also greatly loaded with dark blood, and effusion of blood to the extent of two and a half inches had taken place on the internal surface of the occipital bone. In the abdomen the omentum and mesentery were found congested, as were the kidneys, to an unusual extent.

There is no doubt that death was here produced by strangulation; and it is equally certain that two modes of producing it had been resorted to. An attempt at strangulation by ligature had been made, as was evident from the mark on the throat, which was more superficial than in death by hanging. The bruises at the angles of the jaw had evidently been previously inflicted by pressure of the thumb on the right side, and by two fingers on the left. Hence the suspicion of suicide was quickly dispelled. The murderers had overlooked the fact that their victim could not have afterwards moved to the distance at which her body was found from the hook in the wall! The setting fire to the straw was doubtless intended to cast additional obscurity on the case. Every inquiry was made after the perpetrators; and although, a year afterwards, a bill belonging to the deceased was offered for exchange, and the holder was arrested, no facts could be brought home to him, and the deed remains still unpunished after the lapse of three years.

From the examination of many cases of death from suffocation in infants overlaid in bed by their mothers or nurses, Dr. Casper has noticed a peculiar appearance which he has not met with in adults. He has found in all these cases petechial sugillation of the pulmonic pleura, in the arch of the aorta, and on the surface of the heart, besides the usual signs of suffocation which have been mentioned in the preceding observations. In most of these cases the stomach

* See p. 218 of present volume for preceding series.

was overloaded with curdled milk, which the infants had been allowed to lie and suck in order to pacify them and keep them asleep. This repleted condition of the stomach predisposes to suffocation. The real nature of these cases is too often overlooked, while death is attributed by coroners' juries to cramp, fits, &c. In three cases of this kind Dr. Casper found that death had been attributed to apoplexy.

An apprentice, eighteen years of age, was suspected to have come by his death from violent chastisement by his master, and that the latter, in order to screen himself from the charge, had afterwards hanged him. On examination of the body but slight traces of external violence were discovered on the back. A yellowish-brown parchment-like streak was found round the throat, without any subcutaneous sugillation. The fæces had passed from the bowels. Inspection internally detected apoplectic congestion of the brain, and great congestion of the lungs. It was evident that the beating had not been the cause of death, and that the hanging had been effected during life. — *Casper's Wochenschrift.* χ

EPIDEMIC INFLAMMATION OF THE MEMBRANES AND SUBSTANCE OF THE CEREBRO-SPINAL CENTRES.

We present an abstract of an account by Dr. Ames of an epidemic presenting this form of disease in considerable severity, which prevailed during the winter and spring of 1848, in the little city of Montgomery, on the Alabama river, U.S. The geological formation on which the town is built is the eocene tertiary, and the adjoining territory embraces several thousand acres of alluvial land, subject to an annual overflow of the Alabama. At distances varying from fourteen to thirty miles, north and east, the tertiary forms an abrupt junction with the primary formations, consisting of different points of mica slate, gneiss, and granite. A range of hills forms a basin on three sides of the town, the river constituting the fourth side, securing to the town when a hard rain falls a thorough washing. The dwellings are built with ample space around them. There is no crowding, nor are there any accumulations of filth anywhere to be found; neither is there met with within the city any of the destitution of extreme poverty. The epidemic was confined to the limits of the city. The residents on the adjoining hills and in the surrounding country were, with certain exceptions, remarkably exempt from the epidemic, and from all other diseases. After the disease had subsided in the city it made its appearance at a large plantation about eight miles south-east: nineteen cases occurred, mostly of a malignant congestive type. About the same time it appeared on the cretaceous formation (on a prairie) about eleven miles south, passing over, without apparent cause, adjoining prairies, which remained as free from sickness as at the same season in other years.

The disease made its appearance in February, and disappeared as an epidemic towards the end of April. An epidemic roseola also preceded, accompanied, and disappeared with the epidemic. At the same time other diseases common to the climate and locality prevailed, some of them to an unusual extent. These were dysentery, diarrhœa, intermittent and remittent fever, various forms of neuralgia, spasmodic cephalalgia, catarrhal fevers, and bronchitis.

The disease assumed two forms—the congestive and the inflammatory. Of the congestive class Dr. Ames makes two divisions—the malignant and the mild. In the inflammatory form Dr. Ames distinguishes three groups—the malignant, the grave, and the mild.

The premonitory symptoms vary in severity according to the preceding classification; headache, continuous, but occasionally remittent or intermittent. In some cases were added pain along the spine, particularly in the neck, soreness in the muscles or joints, facial neuralgia, giddiness, with or without dimness of vision. The appetite generally but little affected. The duration of this stage was various, from twelve hours to seven days, and it afforded no indication of the severity of the attack.

The mode of attack was by a degree of chilliness not amounting to rigors, quickly followed by a decided febrile reaction, a state of stupor more or less considerable. In others delirium occurred. In some cases the premonitory symptoms were suddenly followed by coma or apoplexy. In general the skin was dry. The temperature of the surface but little altered. The pulse was generally slower, smaller, and softer on the first day than in health, irregular in its beats and force in the majority of cases, and was below 60, in several below 40 in the minute. This irregularity of the pulse was observed in the mild as well as in the malignant form. In the more grave or malignant forms the tongue was broad, flabby, and indented at its edges, coated of a pale ash or yellow colour. Headache existed in all cases, varying in character, some describing it as a roaring noise, others as crushing pressure, others as darting pain, &c. &c. The conjunctivæ were generally injected; the eyes glittering and watery. Photophobia and double vision were also met with. Retraction of the head, tonic contractions of the muscles of the back, tetanic stiffness and soreness of the muscles of the neck, quivering and tremors of the muscles of the face, hands, and arms. Strabismus occurred in three cases, convul-

sions in four. Pain in the course of the spine existed in most instances. Pressure on the cervical portion of the spine produced headache and pain at the top of the sternum, on the dorsal portion great restlessness and pain at the epigastrium. Vomiting occurred in several cases. The bowels were not generally disturbed. In many cases an urgent desire for food existed. The breathing in general was regular and not hurried. The expression of the countenance was various, being wild, anxious, distressed, melancholy, heavy, and, but rarely, brilliant and pleasing.

Duration.—The disease continued from fifteen hours to fifty days. A tendency to remission was observed frequently on the second and third days. In some cases even an approach to intermissions was noticed.

Complications were as follows:—Inflammation of the fauces, roseola, bronchitis, pneumonia, affections of the mucous membrane of the intestines and mesenteric glands, and a typhoid state.

Race, age, and sex.—Among eighty-five cases twenty-two were whites. Of these the youngest was one case at five years of age; the greatest number was between ten and twenty years old; three cases were over fifty years of age. Of sixty-three blacks the greater proportion of attacks were between twenty and thirty years of age.

Mortality.—The mortality was confined to the malignant form; in this it was about sixty per cent.

Treatment.—The effect of blood-letting was not satisfactory. Mercury was far more efficient, from its promptness and the permanency of its effects. Blisters along the spine afforded great relief. Quinine was serviceable in the more grave forms, especially where remissions occurred. Cathartics were not called for. Opium was safe and valuable as an anodyne in cases not inflammatory or congestive. — *American Journal of Medical Sciences*, 1849. χ

ON THE NATURE AND TREATMENT OF SEA SICKNESS. BY DR. F. W. FISHER.

It is in the rising motion or ascension that the nausea commences, but it is in that of descending that the nausea is exasperated and acquires all its intensity. The following is the theory of M. Pellarin:—Sea sickness ought to be attributed to the trouble caused in the circulation of the blood by the alternate movements of inclination that the ship undergoes: either lateral, rolling; or antero-posterior, pitching. This trouble has for a result, not to congest the brain, as Wollaston pretends, but, on the contrary, to deprive it of a sufficient quantity of blood for the normal stimulation of the nervous centre. That which is experienced in sea sickness is in fact analogous to what often happens in arresting the flow of blood in persons who are bled while sitting or standing, and who at the time they faint are taken with a disposition to vomit, and really do vomit. M. P. does not deny that by reason of the general diminution of the circulation there may be a stagnation of the venous blood in the cerebral sinuses, but it is especially in the want of a sufficient excitation of the nervous centres by the arterial blood that the primordial phenomenon of sea sickness seems to consist. Observe a person seized by sea sickness; his face becomes pale, his extremities cold, his nails turn blue as at the debût of intermittent fever. What he experiences resembles much the effects produced by the smoking of the pipe or the cigar, on persons who are not accustomed to smoke. The pulse becomes small, and there is an extreme prostration of the intellectual and physical faculties. There is a hyposthenic influence in both cases, by the narcotic action of the tobacco in one case; by the diminution of the circulatory force of the blood in the other.

M. P. recognises an analogy between the nausea produced by the motions of a vessel, and the nausea and vomiting of women during the first months of preguancy; that is, at an epoch when the womb becomes the centre of a sanguineous afflux, and consequently diverts from the brain a portion of the vivifying liquid it received. Many women have declared that nothing resembled more the nausea of the commencement of their pregnancy than that they experienced the first few days at sea. Another circumstance which strengthens this theory is, that generally pregnant women are rarely taken with vomiting while they remain in bed, and on the contrary, often so taken when they change the horizontal to an upright position. Why are women more nervous? why have they odd tastes and irresistible desires during the period of pregnancy? Is it not because the nervous system is at this time less supplied with blood, and that the blood, as every one knows, is the moderator of the nerves? A similar cause produces the greatest susceptibility among women during the menstrual period. To cite an example—a lady, who had never been sea-sick during many voyages, experienced it severely in crossing the English Channel when she had one of her periodic evacuations.

To resume the conclusions. First, the sickness produced by the sea, by riding in carriages, by swinging, are all phenomena of the same nature, determined essentially by the influence exercised on the circulatory march of the blood in the movements that the body undergoes under these different circumstances. Second, this influence has its principal effect in diminishing the ascend-

ing force of the excitory liquid in the aorta, and the arteries branching from it; from this results a hyposthenic state of the brain by anæmia or hypohemia. Third, the insufficient excitation of the cerebral organs determines, by sympathy, spasmodic contractions of the diaphragm, vomitings—which have a particular tendency to re-convey the blood which is wanting, towards the nervous centre. These efforts are a crisis which takes place in a conservative end. They manifest themselves not only in sea-sickness, but in many other circumstances where the brain becomes suddenly deprived of its normal supply of blood; for example, in persons not affected by phlegmasia who are bled.

Treatment.—There are two orders of means to be employed. The first consists in removing one's self as much as possible from the cause, *i. e.*, from the motions of the vessel, in remaining in a recumbent position, in a hammock suspended without sensible friction at its points of attachment. The second has for an end to combat the effects of the cause on the organism. It acts especially to this end in stimulating the circulatory function by all the agents susceptible of increasing its energy. Thus, a tonic regimen, active corporeal exercise for some days previous to embarkation. At sea, if the weather permits, one ought to keep on deck, in the breeze, make large inspirations, walk quickly and until he perspires or is fatigued; or, better still, to engage in some hard exercise, even with the sailors in working the vessel. Hard work, that which requires great muscular effort, is the surest prophylactic against sea-sickness. The girdle has also its advantages in contributing to force the blood towards the head, and perhaps in seconding the contractile force of the heart. Before the manifestation of the nausea, warm and exciting drinks are favourable. Thus, coffee, tea with the addition of a little brandy, may give a greater disposition to resist it, in stimulating the circulation and maintaining a diaphoretic state of the skin. Among the medicines, those which have an analogous effect on the economy may be administered with advantage; such as opium, saffron, acetate of ammonia, &c. When the sickness is declared, recourse is only to be had in the palliatives; lemons, exciting aromatics, relieve some persons; also the horizontal position, especially with the head low, in a hammock or bed suspended like a compass. But if one wishes to shorten the duration of the nauseous influence of the sea, and diminish the tribute he must pay to a nautical acclimation, he must struggle with all his energy against the tendency to inaction.—*Philadelphia Med. Examiner.*

CASE OF ŒDEMATOUS LARYNGITIS—DEATH—AUTOPSY. BY GEORGE L. COLLINS, M.D.

Catherine Martin, Irish, æt. about 20, of robust constitution, arrived in Boston 5mo. 10th, 1848, and came to this city the following day. She was attacked with ship fever, and admitted to the City Hospital on the 19th, where she went through the usual course of sickness, though the case was not particularly severe. There was considerable delirium, with some manifestation of local complications about the lungs. On the 9th of 6mo., while still labouring under some mental aberration, she eloped from the Hospital and walked a mile or more, when she was found and sent to the City Asylum. Here convalescence went on favourably up to the 19th, when she appeared very well, with the exception of a slight cough, and a considerable swelling on the left side of the neck, behind and below the angle of the jaw, which was now in the suppurative stage, and which seemed to have its origin in a lymphatic gland. On the morning of this day she was about the yard, and made no complaint until afternoon, when she experienced a difficulty in breathing, which continued to increase until evening, when it became more urgent. Some simple applications were now made by the nurse, who did not think the case of sufficient importance to send for the attending physician. She retired at an early hour with the other inmates, and remained pretty quiet till about 10 o'clock, when she aroused those near her by her tones of distress. The nurse was immediately sent for, but on reaching the room about five minutes after, she found her already dead.

Autopsy.—I made an examination of the body fifteen hours after death, assisted by Dr. Clifford, who was then in attendance at the Asylum. The throat was the only part examined. The abscess on the side of the neck contained two or three ounces of pus, but it did not seem to have made any injurious pressure upon the larynx. The larynx, with a portion of the root of the tongue and trachea, was now removed, when the cause of death was at once apparent. Both edges of the glottis were affected by œdematous swellings, as was also the epiglottis. The glosso-epiglottic frænum and pouches on either side were considerably swollen. The swelling about the glottis extended into the cavity of the larynx, and spread to the surrounding walls of the pharynx. On further dissecting the larynx, a small abscess was found situated about the posterior part of the cricoid cartilage, a little to the right of the mesial line. The cartilage was denuded of its coverings, both internally and externally, to a considerable

extent. A part of its substance was also destroyed, leaving a notch about four lines deep in its upper edge, and involving about three-fourths of the arytenoid facette of that side. There was still pus in the cavity, though a part of it had been discharged through the opening directly into the larynx large enough to admit a small crow-quill. The right arytenoid cartilage was entirely destroyed, with the exception of a small part which gives attachment to the lateral and posterior crico-arytenoid muscles—thus leaving no cartilaginous attachment for the right extremity of the arytenoideus muscle on the vocal ligaments of that side.—*Boston Medical and Surgical Journal*, 1849.

THE BENEFITS CONFERRED BY MEDICINE.

If the study of medicine be ennobling, the practical duties of the profession are certainly not less so. Benevolence, the accident of others, is the business of the physician. His daily errand among men is to heal the sick, assuage pain, to comfort the sorrow-stricken. To him, and only to him, is it given to "stand between the living and the dead, and stay the plague." To him, and only to him, is it given to dispense health to the sick, and beauty to the deformed, and call back wandering reason to her deserted throne! Though his power be limited, yet is it power the most magnificent ever won by the intellect of man. True, the abundance of medical aid, and the freeness with which it is offered, has lessened its nominal value to the thoughtless, and so, too, the abundance of the rill and river make men unmindful of the treasure of water which gushes profusely at their feet. But let the heavens be shut, and the streams fail, and priceless becomes the diminished store of that precious fluid, but now so little prized.—*American Journal of Dental Surgery.*

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·85
" " " Thermometer[a] ..... 40·
Self-registering do.[b] .... Max. 0·0 Min. 26·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·39.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was about the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 15.

BIRTHS.		DEATHS.		*Av. of 5 Aut.*	
Males....	662	Males....	487	Males....	583
Females..	647	Females..	515	Females..	579
	1309		1002		1162

CAUSES OF DEATH.		*Av. of 5 Aut.*
ALL CAUSES	1002	1162
SPECIFIED CAUSES	998	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	180	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	42	49
3. Brain, Spinal Marrow, Nerves, and Senses	114	125
4. Heart and Bloodvessels	39	40
5. Lungs and organs of Respiration	219	214
6. Stomach, Liver, &c.	51	65
7. Diseases of the Kidneys, &c.	14	11
8. Childbirth, Diseases of Uterus, &c.	7	10
9. Rheumatism, Diseases of Bones, Joints, &c.	16	8
10. Skin	3	1
11. Old Age	46	57
12. Sudden Deaths	23	12
13. Violence, Privation, Cold, &c.	44	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	7	Convulsions	38
Measles	46	Bronchitis	89
Scarlatina	18	Pneumonia	90
Hooping-cough	23	Phthisis	108
Diarrhœa	14	Lungs	9
Cholera	1	Teething	9
Typhus	33	Stomach	7
Dropsy	13	Liver	7
Hydrocephalus	29		
Apoplexy	25	Childbirth	0
Paralysis	23	Uterus	0

REMARKS.—The total number of deaths was 160 *below* the weekly autumnal average.

NOTICES TO CORRESPONDENTS.

Mr. Jennette's order for the journal should have been forwarded to the Publishers, and not to the Editor. The letter has been sent to the proper quarter.

X Z.—1. A medical man so practising is substantially practising as an apothecary, and not as a physician. 2. The designation of physician would be conventionally, *not legally*, applicable to such a person. A purchased German diploma gives no legal status in this country, and that of the College of Surgeons does not empower a man to visit and prescribe in truly medical cases. 3. Answered in 1, with this addition: a court of law would, we believe, rule that it was an infringement of the Apothecaries' Act, provided it could be proved that the party attended and supplied medicines for profit in a medical case. In such a case the transferring the charge to "Visits and Attendance" would, we think, be regarded as a mere colourable evasion of the statute.

Mr. W. Smith, Belper.—We shall reserve the paper for the first number of the new volume. The other papers can be forwarded so as to allow of their insertion on alternate weeks, if convenient to our correspondent.

RECEIVED.—Mr. E. O. Spooner.—Dr. E. A. Parkes.—Dr. Griffith.—A Governor of the Hospital for Consumption.—Aris's Birmingham Gazette.

CORRIGENDA.—In Dr. Griffith's paper, in the last number, page 1034, column 2, line 7 from bottom, for "that of crystalline," read "the crystalline."—P. 1035, col. 1, line 33 from top, for "were," read "was;"—col. 2, line 20 from bottom, the full stop between "Dr. Swayne" and "I" should be a comma.—P. 1036, l. 13, for "tuberculatedness," read "tuberculated mass."—P. 1036, line 6, for "where," read "whose."

FELLOWS' PRIZE REPORTS

OF

CASES OCCURRING IN UNIVERSITY COLLEGE HOSPITAL,

SUMMER SESSION 1845.

By C. H. F. Routh, M.D. Lond.

Case of Albuminuria—continued.

Sectio Cadaveris, ten hours after death.—Temperature 57°F. Weather dull and cold.

The whole body was œdematous, especially in the dependent parts; the labia pudendi and prolapsed parts much swelled, excoriated, and intensely red. The toe was not livid, and the sore looked healthy. There were several small maculæ of ecchymosis on the left side of the neck, varying from the size of a bean to that of a pea. There was a dirty, gangrenous-looking slough on the abdomen, about the size of a filbert. No rigor mortis. Muscles pale and flabby.

Brain.—There was nothing particular about this organ. The vessels were not more vascular than usual; on the contrary, the substance of the brain was rather soft and pale; there was a little serum in the arachnoid, but only enough to separate the convolutions. Weight 2lbs. ʒijss.

On opening the chest and abdomen the liver did not appear to reach as high as usual by two inches, and it extended about four inches below the margin of the ribs. There was a considerable amount of dirty-looking serum in the abdomen, about a quarter of a bucket full. There were nearly ʒl. of clear yellow serum in the right pleura, and about ʒxii. in the left. There were four old adhesions of the right pleura to the right side of the pericardium, but nowhere else; a few adhesions at the apex of the left lung. The pleura itself was very much injected.

Right lung much diminished in size. Air-cells at apex somewhat large; the lung, as a whole, of a dark colour. The upper lobe did not contain much blood or serum. At the lower part of the upper lobe there was a projection, arising from a circumscribed induration of about the size of a walnut, which, when cut through, was found to be well defined and injected with blood, evidently a spot of pulmonary apoplexy. The lower lobe was non-crepitant throughout, of a dark colour when cut through, rather brittle, and a portion of it sunk in water. Weight ʒxij.

Left lung was much larger than the right, and portions of it were emphysematous throughout the upper lobe and part of the anterior surface. Over part of the anterior surface the pleura was pink-coloured, and the surface of the lung a little prominent. The substance of this lobe was non-crepitant, and a portion of it sunk in water. The lower lobe, as a whole, was less solid than the upper; still it crepitated very little, was of a dark red colour, brittle, and contained a great deal of bloody serum. It sunk also in water. Weight ʒxvii.

Heart.—There was no fluid in the pericardium. At the apex of the left ventricle, and a little over the anterior surface of the right ventricle, was a considerable *white patch*. There were some adhesions between the aorta and the right auricle. The heart, as a whole, was large. Weight ʒxiv.

Left ventricle.—The walls were thicker than usual, and the cavity larger, containing a considerable quantity of black, loose coagula. The membranes were opaque, and thickened to a considerable extent. The aortic valves were also somewhat thickened, adherent to each other, and contracted; no apparent increased vascularity; tested by water they allowed very little (scarcely any) regurgitation. The mitral valve was distinctly contracted; it did not admit more than one finger; it was somewhat thickened, and there was a yellow deposit in it. The *left auricle* was somewhat thickened, and there were some vegetations on the auricular side of the free margin of the valve.

Right ventricle was distinctly larger than usual, but the cavity about the ordinary size; some few black coagula in it. The lining membrane was healthy. The tricuspid valve was too small, admitting two fingers only, or the points of three. The right auricle was also too long. The foramen ovale was open, about a quarter of an inch in diameter: the opening, however, was valvular.

Liver.—The left lobe was small. The surface was universally of a yellowish brown colour, uneven, and roughish-looking, like incipient cirrhosis. On cutting through it, it was of a yellow and red colour, the yellow predominating. The *gall-bladder* was smaller than usual, containing some thin bile. Weight 2lbs. 7oz.

Spleen was small and dark-coloured; rather firm. Weight ʒiijss.

Kidneys.—The volume of the right kidney was diminished. The capsule tore away a portion of the cortical substance when peeled off, and the surface was very irregular, with portions as large as pins' heads upon it; paler than usual. The cortical substance itself much atrophied. Still, there was very little foreign matter visible. Weight ʒij.

Left kidney presented the same appearances. Weight ʒiij. ʒij.

Stomach contained undigested food; mucous membrane a little reddened along the small curvature; otherwise healthy.

There was evidently atheromatous disease intermixed with some ossification in the common iliac of the left side. The inner coat of the femoral artery was thickened, and separated more easily than naturally. The ossification was found to extend to the termination of the anterior tibial on the right side. The arteries on the opposite side contained some coagula, but were otherwise healthy.

The os uteri was patent and the uterus thick. Small, twisted, little ossified arteries were beautifully seen in its substance. The vagina very large; both ovaries completely atrophied; vagina and bladder unusually red, and perhaps the mucous membrane softer than natural.

REMARKS.—*Diagnosis.*—1. There was evidently anasarca, indicated by the swelling of the surface and pitting on pressure. This dropsy was *renal*. Her occupation was such as to make her peculiarly liable to catch cold: she was, moreover, a gin-drinker. Then she had had one attack of albuminuria; and one attack, we know, predisposes to a second. There was albuminuria present. The face had been early attacked. There was, moreover, much pain across the loins, the sallow and anæmic appearance of the patient, all circumstances indicating the presence of Bright's disease. It is true the specific gravity of the urine was high, but this is *occasionally the case in Bright's disease during an inflammatory seizure.*

II. There was lividity of the toe, which appeared to be due to gangrena senilis. The sensibility of the toe was slightly impaired; there was occasionally violent pain it. There was morbus cordis, and she was of an age predisposed to its occurrence.

III. There was also some pulmonary disease. The right side was somewhat duller than left. Of itself, this would not necessarily indicate consolidation, as the clearness on percussion of the opposite side might be due to emphysema, more especially as the back low down was resonant, probably from the same cause. But the respiration below the right supra-spinous fossa was bronchial: inferiorly it was weak, and there was no dulness on percussion; so that hydrothorax did not exist. There was, then, evidence of consolidation; and this might arise from four causes.

1. Old pneumonia. She had had a cough five weeks back. She described the expectoration then as rusty, accompanied with hæmoptysis.

2. Present pneumonia. There was nothing that could positively prove this. There was pain at the epigastrium, and large crepitation; but these symptoms might be due to the bronchitis.

3. Cancer. Of this there was no other evidence but her sallow complexion; and this might be caused by Bright's disease.

4. This dulness might be due to adventitious pleural membrane; but this would not account for bronchial respiration.

Lastly, the consolidation might be due to tubercle. Her hereditary predisposition favoured this view. She herself had lost flesh, had frequently had hæmoptysis; this was of a fluid red colour. She had lost two brothers and two children from decline, but even here there was a source of fallacy in the presence of cardiac disease. Upon the whole, this appeared, however, a highly probable explanation.

IV. There was a murmur heard with the first sound, arising from regurgitation in the auricle. It was heard loudest at the apex, not heard in the neck or top of sternum; thus denoting its mitral origin. There was also hypertrophy, indicated by the increased impulse over left ventricle. Lastly, there might or might not be disease of the right cavities of the heart, there being enlargement of the jugular veins.

V. There was probably some enlargement of the left lobe of liver, as indicated by the increased amount of dulness. This, however, could not be considerable, as the liver did not reach higher than sixth rib.

VI. There was bronchitis, indicated by the frothy sputa, cough, and large crepitation.

VII. There was procidentia uteri, perhaps prolapsus of the bladder.

Treatment.—The patient was weak, aged, and the pulse was irregular. The gangrene of the toe was the most painful affection. The treatment was therefore tonic, and chiefly directed to the gangrene. Opium, bark, and ammonia, are remedies which have been used in gangrena senilis with the best advantage. Subsequently the bitartrate of potass was given as an occasional beverage. In small doses it acts as a diuretic. It was not given in large doses, it being feared that the depressing effects of it subsequently might prove injurious to this patient, already so weakened.

The progress of the gangrene seemed to confirm the opinions of Messrs. Liston and Dupuytren, who refer gangrena senilis to arteritis. Preceding every extension of it, symptoms of inflammation, such as increased heat, redness, and pain, in the afflicted toe, occurred. After a time, when the obstruction of the arteritis seemed complete, it became colder and less sensible. Similar premonitory symptoms were, though to a less degree, observed in the other toes, followed by diminution of temperature in the affected parts.

On the 2nd of June it was found on inquiry that the bitartrate of potass had not been regularly supplied; and as the anasarca continued, it was ordered to be given daily.

It proved, however, too depressing, and had therefore to be omitted, and more nourishing and exciting diet given. The gangrena senilis, for a time, did not progress. How far this might be due to the general or local treatment is doubtful.

On the 5th and 6th of June the cough became worse. On the 24th of May, indeed, there had been increased dyspnœa, oppression on the chest, and the sputæ were more discoloured. These symptoms, however, excepting a slight exacerbation on the 30th, had subsided. On the 6th, however, with the renewed dyspnœa was increased pain in the epigastrium and navel. We know these reflected sensations are frequently indicative of disease of the lungs. In pericarditis, pleuritis, and pneumonia, the pain is frequently not referred to the thorax, but to the epigastrium. In a case of pleuritis, under Dr. Taylor, it was referred to the iliac fossa. Many other analogous examples might be given. Dr. Watson's case of acidity of the stomach producing pain in the heel; indigestion, thoracic and cerebral neuralgic pains, &c. It is true there had been, from time to time, sickness and vomiting in this patient, which symptoms, coupled with the sallow complexion and epigastric pain, might in some measure justify the supposition that she was affected with disease of the stomach; but there was no tenderness at the epigastrium, it was merely pain referred there. Moreover, she never *threw up her food*, only her *medicines*. We had, in addition, evidence of pulmonary disease to explain these symptoms. On the 9th the sputa was bloody. On the 12th the recurrence of the same kind of expectoration called again attention to the chest, and a physical examination of it revealed the presence of pneumonia, or pulmonary apoplexy. It was thought there was increased dulness on percussion; and, intermixed with the somewhat bronchial respiration, was some moderately fine crepitation. This patient had mitral disease, regurgitation, the blood was in a very thin and liquid state, she had Bright's disease,—all conditions favourable to the occurrence of pulmonary apoplexy, but the diagnosis could not be certainly made between the two affections.

On the 24th the pulmonary affection appeared to be on the increase. There was more dyspnœa, more lividity of the lips; the respiration greatly quickened; the respiration was bronchial over the middle and lower lobes of the right side; and lastly, there was increased dulness on percussion. On the 27th symptoms of delirium presented themselves; but, in addition, the physical signs for the first time were observed to bear some resemblance to those of hydrothorax. Inferiorly the dulness was *complete;* the vocal vibrations were not felt; but might not this be pneumonia? Here was increased dulness where before moderately fine crepitation had been heard. Again, in some cases of pneumonia the vocal fremitus is occasionally diminished. Moreover, the respiration was strongly bronchial over an extensive surface, and usually a layer of fluid opposes the transmission of sound. But simple pneumonia could not explain the change of the seat of dulness with the change of position. Then the dulness was too *complete* to be the result of pneumonia. There must have been, then, some hydrothorax present. It seems difficult, however, to explain the *transmission of the bronchial respiration through fluid;* for, if œdematous walls could diminish the intensity of the vocal vibrations, the same cause might also impede the transmission of the bronchial respiration. Could this be effected through the adherence of a portion of consolidated lung, yet was the dulness too complete, and the bronchial respiration heard over too extensive a surface. Much, therefore, of it must have been conducted through the layer of fluid by the solid parietes of the chest, and probably the degree of tenseness of these, or something in the quality or pitch of the sound, might afford the explanation.

On the 28th of June there was some amendment; but it did not last. On the 1st July the bloody sputa was examined under the microscope, and none of the caudate corpuscles were observed in it; a fact setting aside the presumption that the consolidation was of a carcinomatous nature. On the 2nd, another sign of hydrothorax presented itself. When lying down the patient experienced a sensation as if she would choke, denoting, probably, an increased amount of effusion; and connected with it the more metallic character of the bronchial respiration, heard inferiorly, might be due to the greater compression of the lung. Then the decubitus was towards the affected side. In pneumonia it is usually dorsal, or towards the healthy side. But in addition there was evidence that the left lung was affected. On the 23d June, slight consolidation of this lung had been observed, and the respiration below the pectoralis major was slightly bronchial. Now in the axilla it was distinctly bronchial. Most probably this was due to pneumonia.

From this time, however, it became evident her dissolution was fast approaching. There was distressing orthopnœa. The extremities were getting cold, anasarca increasing, and the heart's action much weaker. A day before her death purpurous spots were observed upon several parts of her chest. This is common towards the termination of adynamic diseases.

The state of the urine throughout was indicative of the presence of Bright's disease,

Date.	Reaction.	Lithates.	Albumen.	Sp. gr.	No. of oz. passed in 24 hours.	Microscopical characters.	Diet.	Quantity of solid matter excreted in 24 hours.
May 16	Very acid.	$\frac{1}{4}$th quantity tested.	$\frac{1}{6}$th quantity tested.	1026	16	—	Middle, Oss. Beef Tea. Gin, ℥ij.	457
,, 20	Do.	Same.	$\frac{1}{8}$	1026	—	—	—	—
,, 21	Do.	Do.	Trace.	1027	About 16.	Epithelium scales, tubes, lithates.	—	446
,, 22	—	—	None.	1012	About 24.	—	—	326
,, 24	—	—	Do.	—	16	—	—	—
,, 26	Acid.	—	$\frac{1}{3}$	1022	48	—	—	1226
,, 27	Very acid.	—	Trace.	1021	48	—	—	1150
,, 29	Slightly acid.	—	Do.	1005	About 24.	—	—	134
June 2	—	—	—	—	—	—	—	—
,, 3	Very acid.	—	$\frac{1}{10}$	1024	—	—	Full.	—
,, 5	—	—	Trace.	1025	—	—	—	—
,, 6	Acid.	—	$\frac{1}{3}$	1018	—	Large organic or pus globules. Triple phosphates, epithelium scales.	Fish on alternate days. Wine ℥vj.	—
,, 12	Do.	—	Trace.	1020	—	—	—	—
,, 13	Very acid.	—	Do.	1019	—	—	—	—
,, 17	Slightly acid.	Much.	Do.	—	—	Triple phosphates, lithates.	Wine, 4 oz., gin, ℥ij.	—
,, 18	Alkaline.	—	Do.	—	—	Triple phosphates.	—	—
,, 19	Do.	A few.	Do.	1019	—	—	—	—
,, 23	Do.	—	Do.	1025	—	—	—	—
,, 24	Slightly acid.	—	Do.	1012	About 16	Ditto, hairs, epithelium tubes.	—	217
,, 26	Alkaline.	—	Do.	—	—	—	—	—
,, 30	—	—	—	1025	8 ?	Bloodglobules.	—	—
July 5	—	—	Trace.	—	24	—	—	—

The average quantity of solid matters excreted being, according to Becquerel, from 510 to 681, with a specific gravity 1015, and 30℥ to 40 passed in the 24 hours.

The reaction in Bright's disease is usually acid. From the 18th, however, to the period of her dissolution, it was alkaline. Albuminous urine is prone to decomposition. This might account for its alkalinity, the weather at that time being very warm. But perhaps this might be due to the inflamed state of the bladder and prolapsed vagina, which were much inflamed. If nephritis existed, it was only of very recent date.

2d. The quantity of solid matter excreted, it was true, was generally deficient, and *this irrespective of the diet given*, as is usually the case in Bright's disease. There was, however, on two occasions, actually an excess observed. Lithates were also of frequent occurrence, and the specific gravity high, almost to the last. These facts are important, as showing that high specific gravity occasionally, and a considerable amount of salts in the urine, are not incompatible with Bright's disease of the kidney, and as proving the good effect of diuretics, even in advanced stages of this disease.

3d. The microscopical characters were those usually observed in Bright's disease.

Causes.—Many of these have already been alluded to. *Predisposing:* 1st, of the renal affection; her occupation; her intemperate habits; her scrofulous diathesis; the previous attack of albuminuria.

2d. Of the pulmonary affection. The heart disease would predispose her to congestions and inflammations of the lung. If

there was any tubercular deposit, this also would make her liable to disease of the lung.

3d. Of the dropsy. The liquidity of the blood and the renal disease.

Exciting causes.—1st. Of the renal affection. Fright appeared in both instances to have immediately preceded the active renal symptoms. Could this be a cause? Individuals become pale from fright, a determination of blood taking place towards the internal organs. A weak organ might perhaps by this momentary influence be materially and permanently injured.

2d. Of the pulmonary affection, supposing it inflammatory, most probably the renal disease.

3d. Of the dropsy. The pulmonary affection, as has been noticed in former cases.

4th. Of the cardiac disease. It appeared to have been excited by the rheumatic attack when she was 10 years old, at which period marked symptoms of a heart affection presented themselves.

The post-mortem appearances were peculiarly interesting taken in connexion with the previous history.

1. The state of lungs. The hæmoptysis was probably due to the pulmonary apoplexy, perhaps originally to pneumonia. There were no tubercles. As had been supposed, hydrothorax existed, but no adhesion was found. *The bronchial respiration must, therefore, have been transmitted through the layer of fluid, or by direct continuity of consolidated portions superiorly downwards through the walls of the chest.*

2. There was, as had been supposed, mitral disease and hypertrophy of the left ventricle. There were adhesions, however, superiorly to the pericardium, and a patch on the heart without adhesions, lower down on its surface: all these due, no doubt, to pericarditis of an old date. The former adhesions are most important, as had recent pericarditis occurred in this patient, the effusion could only have extended laterally and inferiorly, not superiorly; and thus, had the case been seen at a late period, when no friction sound was present, the diagnosis between simple hypertrophy or engorgement of the heart would have been difficult, if not impossible.

3. The two white unadherent patches observed on the surface of the heart oppose the rule laid down by Dr. Watson, that adhesions will necessarily result, wherever pericarditis has occurred on the subsidence of the fluid effused.

4. But there was also disease of the tricuspid valve. During life at first the jugular veins appeared large; later, regurgitation was noticed, first in the right, subsequently in both. This regurgitation might be supposed to have depended on obstruction of this valve. Probably also by causing engorgement in the left vena azygos, which is chiefly distributed to the right side of the chest: it had something to do with the effusion in the right pleura, which was enormous as compared with the left. This obstruction also predisposed to the ascites present. Again, the whole right ventricle was hypertrophied, and coupled with the regurgitation of the mitral valve was the cause of the pulmonary apoplexy. Perhaps the hypertrophy of the right ventricle was due to this very regurgitation, which by engorging the lung called for more force from the right ventricle.

5. The liver was larger than natural. It was mottled red and yellow. There was, it is true, no contraction and irregularity, but this is commonly observed in early stages of cirrhosis. No doubt it contributed to the ascites present. The liver was also displaced, but not much. The lower lobe of the right lung was resonant long before the effusion had occurred, and if no emphysema was noticed here after death, it was due to the compression by the fluid.

6. The kidneys were smaller; capsule adherent, and the cortical substance greatly atrophied, but with all this there was no new deposit. The disease was confined to the cortical substance. This fact is interesting, because we noticed in another case a similar state of the organ with a high specific gravity. Is it always the case, in forms of Bright's disease, where the cortical substance is chiefly affected, that the specific gravity is comparatively high?

7. The state of the vessels of pelvis and leg explained the immediate cause of the gangrena senilis.

8. As was supposed, there was no disease of the stomach. The referred pain at the epigastrium was due to the pulmonary disease.

9. *Cause of the friction sound* supposed to have been heard over the cardiac region on the 27th June. Was it the pleuritis of the left lung, or a tricuspid murmur? We know friction sounds may so exactly resemble murmurs, as not to be distinguished one from another.

10. *Cause of purpura.*—We have already stated that purpura is a common occurrence in Bright's disease from the fluidity of the blood. But the same thing has been observed by Dr. Williams, in connexion with cirrhosis of the liver, here also present.

Prognosis from the first was very unfavourable. Her age, general debility, the existence of gangrena senilis, made it probable she would be unable to bear up with the necessary treatment. As the case progressed, a fatal termination became more and more certain. It was evident she had a disease quite beyond the reach of art; and all that could be done was to palliate her sufferings.

Original Communications.

OBSERVATIONS ON THE TREATMENT OF CHOLERA.

WITH CASES.

Communicated by JAMES GEORGE, M.R.C.S.

"Verum est ad ipsam curandi rationem nihil plus conferre quàm experientiam."
Celsus de Re Medica.

THE uniform success which attended the plan of treatment pursued by my father in the late awful epidemic (for not a single patient was lost), has tempted me to offer the following cases to the notice of the profession, in the hope of corroborating views and statements formerly communicated by him to the MEDICAL GAZETTE, and which he published in a small pamphlet on cholera soon after the prevalence of that disorder in the year 1832.

He at that time stated as his firm belief, that the disease was one of utter exhaustion, and in the little work above mentioned, says—"to this fact I would bear the most uncompromising testimony, that if you can control the irritability of the stomach, you keep in subjection, and even subdue, the most formidable symptoms of the disease; the purging gradually ceases, the stage of collapse passes away, and though excitement generally follows, it is that of exhaustion, and quickly yields, even when accompanied by local affections, to generous nourishment and the use either of stimulant or tonic, combined with opiate medicines." This irritability of stomach, this constant vomiting, I have seen subdued in most cases within a very short time (at the longest period a quarter of an hour), by the administration of burnt brandy every five minutes, until it ceased. To this there were but one or two exceptions, out of a very large number of cases, and even in these it produced a marked effect for a time, affording the opportunity of arousing the patient from his fearful state by ammonia and other stimuli, and at once quieting the action of the bowels. There are doubtless many other remedies of equal value in overcoming sickness, as liquor potassæ and hydrocyanic acid, but nothing could be more magical in its effects than burnt brandy.

Another remedy which my father has repeatedly found of great service is the application of strong spirits of camphor (Camphoræ, ℥j.; Spirit. Vini Rect. ℥ij.) around the abdomen on flannel; an application in cholera which he suggested in the MED. GAZ. February 4th, 1832, and afterwards found his suggestions borne out by the happiest results. In the present epidemic I have seen it applied by him with the greatest success, producing instantaneous relief, and the most marked feelings of comfort, where the patient had hitherto been in all the agonies of cramp and spasm. In some severe cases I can imagine its contributing very far towards the alleviation of the nausea itself. It would be presumptuous to endeavour to explain the physiological action of such agents; an accurate observation of the effects of remedies is here only attempted.

A very curious feature in the disease, repeatedly witnessed, was the occurrence of profuse perspiration at various periods after reaction had taken place, so profuse as to justify the term "*sweating sickness*," but which rapidly subsided on the exhibition of a mineral acid: the first case hereafter related was a remarkable instance. This symptom was too violent and long-continued to be considered an effect of the remedies employed, but as the result of sudden reaction taking place in a shattered frame, just rescued from destruction; and as a characteristic feature of the epidemic, although not met with in every instance. A sweating sickness, combined with cholera, has been more than once vaguely stated in the public journals as having occurred in parts of France, and this account has of late been verified by a friend just returned from Epernay (not far distant from Paris), where the cholera had made great ravages, and in repeated instances was marked with this peculiarity. It may not be devoid of interest to observe that a similar disorder complicated with cholera, is recorded as having visited several parts of France during the year 1832 (vide MED. GAZ., June 2, 1832).

CASE I.—Mr. R., ætat. 35, was taken ill early in the morning of July 26th, with violent purging, vomiting, and

severe pain in the abdomen. The stools resembled gum water; eight had been passed in the course of two hours. The pulse was very weak and small, 120, the tongue loaded; he complained of great thirst, and a horrible taste in his mouth. Had suffered slight diarrhœa about three days previous, from which he had been relieved. A tablespoonful of burnt brandy was given directly, the vomiting recurred but once afterwards, and the following draught was directed to be given every four hours:—℞ Ammon. Carb. gr. v.; Aromat. Confect. gr. vij.; Confect. Opiat. gr. v.; Tinct. Card. co. ʒss.; Syrupi, ʒss.; Aq. Cinnam. ʒxj. M. Ft. haust.

9 P.M.—The bowels have not acted since the morning; the urine was loaded with lithates. The tongue cleaning; the pulse frequent and bounding, but compressible. Is now perspiring so profusely that the clothes are quite wet, and yet he is not restless. Complains of a sensation "as if he should sink through the bed."—Adde Haust. Decoct. Cinchonæ, ʒij. To take beef tea, arrow root, brandy and water, &c., as nourishment.

July 27.—Has slept soundly through the night; the bowels were opened once this morning; the evacuation of a natural appearance. The tongue is moist and cleaning rapidly; the pulse feeble, about 60, but is more regular. The perspiration is still most profuse, the pillow soaked in one spot only, from which he had not moved his head, giving evidence of his prostrate condition; his shirt wringing wet, as if it had been dipped in water, but no restlessness or excitement apparent. To continue the nourishment — ℞ Acid. Sulph. Dil ♏vj.; Liq. Opii Sed. ♏iv.; Tinct. Card. co. ʒj.; Syrupi, ʒj.; Decoct. Cinchon. ʒiij.; Aq. Cinnam. ʒvij. M. Fiat haust. 6 q. q. h. sumend.

9 P.M.—There is less perspiration; the pulse 70, regular; the urine clear. Expresses himself as quite well.

28.—Has passed a quiet night, and feels much improved. There has been slight perspiration only. To omit the acid draught, and resume the use of the ammonia and aromatic confection. In the afternoon he was able to leave his bed, and from this time rapidly recovered.

CASE II.—Mrs. E., ætat. 49, labouring under abdominal disease, was seized with symptoms of collapse on the night of August 8th, having suffered from purging and vomiting for two days previous. When seen the countenance was ghastly, the features sunk, the skin cold and clammy, pulse small and irregular, tongue furred. She complained of intense pain across the epigastrium, much thirst, constant retching, and an intolerable sensation of sinking. The abdomen was tympanitic. Burnt brandy was frequently administered, and warmth applied. When the vomiting seemed to abate, the following draught was administered:—℞ Ammon. Carb. gr. v.; Aromat. Confect. gr. vij; Confect. Opiat. gr. v.; Tinct. Card. co. ʒss.; Pulv. Cort. Granat. gr. v.; Syrupi, ʒss.; Aq. Cinnam. ʒxj. M. ft. haust.

This was rejected in twenty minutes, but afterwards she felt more comfortable; the nausea ceased; a general glow was experienced. The pulse became more regular, and there was a disposition to sleep. To continue the draught every four hours, and a teaspoonful of salvolatile to be given occasionally, and beef tea, arrow root, brandy, &c., as nourishment.

August 9.—Has slept a little, and has vomited twice only. The countenance has recovered more of its usual appearance; the pulse 120, regular; skin hot; the tongue furred; the bowels have not acted since yesterday. There is less tympanitis. The medicine and nourishment to be steadily continued.

9 P.M.—The bowels have acted twice since the morning, the stools containing bile. The nausea and retching have returned, and she has suffered much from cramp. ℞. Ammon. Carb. gr. xx.; Sodæ Sesquic. gr. xij.; Tinct. Card. co., Sp. Eth. Nit. aa. ʒj.; Syrupi, ʒj.; Tinct. Hyoscyami, ♏xv.; Liq. Opii Sed. ♏iij.; Aq. Cinnam. ʒvij.; Decoct. Cinchonæ, ʒij. M. Ft. haust. 4ta q. q. h. sumend.; cum Acidi Citrici, gr. xv.

10.—The nausea has ceased, and she slept comfortably through the night; but to-day complains of severe pain in the epigastrium and left lumbar region. The bowels are still very active.—Repetatur Haust. Cardiac. loco Haust. Eff.

11th.—Continues much the same. The effervescing draught was again

resumed to-day, as the cardiac draught seemed to lie heavy on the stomach, and excited nausea. There is still much pain.

12th.—The bowels have been very active through the night, and there has been occasional vomiting. The abdomen is again tympanitic. The patient feels exhausted, and has no appetite. Hyd. Chloridi, gr. iss. in pil. h. s. s. Adde haustui singulo Decoct. Cinch. 3j.

13th.—Rejected the calomel directly it was taken, and has continued vomiting and purging ever since. The stools liquid, and of various colours; the tongue furred; pulse feeble; appetite none, the sight even of food producing nausea. The voice is very feeble, and she seems in a sinking state. Great pain over the descending colon. Up to this time she had been sleeping in a small kitchen; she was advised to be removed upstairs. To take anything she fancied by way of nourishment. Adde Haustui Liq. Arsenicalis, mjij.; Tinct. Lyttæ, mv. ℞ Tinct. Rhei, 3ij.; Potass. Sulph. gr. xv.; Extract. Glyc. gr. xvj.; Infus. Rhei, 3x. M. Fiat haust. cras mane sumend.

14th.—Was delirious during the night. Towards morning the vomiting ceased. She seems quite changed. The pulse is stronger, and she has taken a little nourishment. The bowels were opened four times during the day; the evacuations more solid, and of a darker colour. Perstet cum Haust. Eff.; Rep. Haust. Rhei. c. M.

15th.—Was again delirious last night, but this morning seems much improved. The appetite mending. The bowels open three times only during the day. Continuentur remedia.

17th.—Continues gaining strength; and from this time she gradually recovered.

Case III.—Mr. L. was suddenly seized, at one o'clock in the morning of August 18th, with violent cramps in the abdomen and legs, purging, vomiting, great restlessness, and vertigo. I found him complaining of excessive thirst, the countenance pallid and anxious, the extremities cold, the pulse feeble. The stools, at first of a dark colour, became tinged with blood, and had the appearance of raspberry jam. A table-spoonful of burnt brandy was immediately given, but was rejected five minutes after. The dose being repeated, it was again returned, but at the end of ten minutes: upon administering it a third time, the vomiting ceased, and the patient was able to retain the following draught—℞. Amm. Carb. gr. v.; Arom. Conf. gr. vij.; Opiat. Conf. gr. v.; Tr. Card. co. 3ss.; Syrupi, 3j.; Aq. Cinnam. 3xss. M. ft. haust. To take beef-tea, arrowroot, brandy and water, &c., and to repeat the draught every four hours.

3 P.M.—There has not been any vomiting or purging, but he occasionally suffers severe cramps in the legs: has much headache, with a hot skin, and a quick pulse. The tongue slightly furred.

9 P.M.—The skin is a little cooler, and he perspires freely. The bowels have been relieved once; the motion again tinged with blood. Perstet cum haustu.

19th.—Slept soundly through the night, and feels much better this morning, but was very faint after sitting up in bed a little while. The skin is still hot and perspiring, but the thirst has somewhat abated, and the head no longer aches. The bowels have not acted since yesterday. Rep. haust. 6ta qq. horâ.

20th.—Was able to sit up this afternoon and eat a mutton chop. The bowels have not been relieved. In the evening he was slightly delirious, which ended on going to bed in a sound sleep. Perstet cum haust. mane merid. nocteque. Pil. Rhei. co., Ext. Coloc. co., aa. gr. iv. h. s. s.

21st.—Awoke this morning considerably refreshed. The bowels have been freely relieved. In a few days he was able to resume his usual occupations.

Case IV.—Mrs. H., while at market on the morning of August 14th, was taken ill with violent rigors, pain in the abdomen, purging and vomiting. The fingers became perfectly blue. Was not seen by my father till three P.M., when she was found labouring under great dyspnœa, with a livid countenance, difficulty of speaking, a cold skin, a small weak irregular pulse, and continual vomiting. Burnt brandy was immediately given, and warmth

applied to the feet. R Amm. Carb. gr. xv.; Sodæ Sesquic. gr. xij.; Tinct. Card. co. Sp. Eth. Nit. aa. ʒj.; Syrupi, ʒj.; Tinct. Hyoscyami, ℥xv.; Tinct. Lyttæ, ℥v.; Liq. Arsenic. ℥v.; Liq. Opii sed. ℥iij.; Aq. Cinnam. ʒj. M. ft. haust. statim capiat cum Acidi Citrici, gr. xv. et post horas duas repetatur.

9 P.M. — Warmth has returned, and the dyspnœa slightly abated, but the voice is still very feeble. Pulse a little stronger, but very irregular. Has had no return of sickness or purging, and has slept a little. Has intense headache. Perstet cum haustu 6ta. qq. horâ. To take beef-tea, arrowroot, brandy and water, &c.

15th.—Has passed a quiet night, and the breathing is not so much oppressed. The voice a little stronger; the skin warm; tongue furred. Pulse 60; weak and irregular. The bowels have not been opened to-day. Perstet cum haustu. R Tinct. Rhei. ʒij.; Potass. Sulph. gr. xv.; Ext. Glyc. gr. xvi.; Infusi Rhei. ʒx. M. fiat haust. cras mane sum.

16th. — The bowels have been opened several times this morning; the stools dark-coloured, lumpy, and very offensive. There is no dyspnœa, and she appears very cheerful; the tongue cleaning, but there is no appetite. Repetatur haust. eff. 6tis horis.

17th.—Was so much improved to-day that she was tempted to sit up till very late in the evening. The pulse 50, very small. To continue the medicine.

18th.—Passed a sleepless night, and insisted on getting up rather early, although she felt far from well; but, at four o'clock in the afternoon, she was again seized with retching, suffocating dyspnœa, inability to speak, a sensation of weight on the præcordia, with a cold skin, and an almost imperceptible pulse. The same treatment was pursued as at first; and at

9 P.M.—The retching was subdued, and she had obtained a little sleep. The skin was hot. She complained of intense pain and throbbing in the temples.

19th.—Had very little sleep through the night; but there is less dyspnœa, and she feels more at ease. Complains of intense pain in the epigastrium, especially after eating. Spirits of camphor (Camph. ʒj.; Sp. Rec. ʒij.) was applied on flannel round the abdomen, and she soon experienced very great relief.

9 P.M. — Is a great deal more cheerful, and throughout the day has had much less headache; the pulse still very feeble. Continuentur remedia.

20th.—Slept soundly through the night, and is certainly changed for the better. The headache has disappeared, and she is very cheerful.

21st.—Was able to sit up again, and seemed acquiring strength. In consequence of over-exerting herself, she had a slight relapse on the following day, but soon after rapidly recovered.

CASE V.—A kitchen-maid was attacked in the afternoon of September 2nd with vomiting, purging, and much pain in the epigastrium, for which she took a dose of chalk mixture. The purging ceased about seven o'clock, after she had passed no less than twelve evacuations. I saw her for the first time at nine o'clock the same evening, and prescribed the following draught, which was taken at bed-time, but rejected immediately. Amm. Carb. gr. v.; Arom. Conf. gr. vij.; Opiat. Conf. gr. v.; Tinct. Card. co. ʒss.; Syrupi, ʒj.; Aq. Cinnam. ʒxss.; Pulv. Cort. Granat. gr. v. M. fiat haust. She was soon after seized with violent cramps, nausea, vomiting, fainting, and dimness of vision; the skin was cold; the pulse very feeble. Burnt brandy was administered directly in rather large quantities, and the abdomen enveloped in strong spirits of camphor. In about five minutes she felt great relief from the nausea, and expressed herself as feeling the greatest comfort. A disposition to sleep was soon experienced, although frequently disturbed by momentary starting and sighing. About an hour after she repeated the cardiac draught, and continued taking it every four hours without any inconvenience.

3rd.—Has been free from pain, and slept a little. There has not been any return of sickness or diarrhœa. Complains of great thirst: the pulse very feeble, 50. To take beef-tea, arrowroot, brandy and water, &c.

9, P.M.—Has slept a great deal during the day: the bowels have not been disturbed. Perstet c. haust.

4th.—Has passed a restless night, and she complained of much nausea this morning: the pulse 61, very feeble; the tongue clean; skin warm

and moist: the appetite has slightly returned: the bowels have not been relieved. To take plenty of nourishment. Continuentur remedia. ℞ Tinct. Rhei. co. ʒij.; Potassæ Sulph. ℈j.; Extract Glyc. gr. xvi.; Infusi Rhei, ʒx. M. fiat haust. cras mane sumend.

5th.—Has slept well, but still feels very faint and weak: the pulse continues very feeble. She starts a great deal in her sleep. The bowels were very obstinate, and continued so for two or three days. Towards the end of the week she was convalescent.

POISONING BY MURIATIC ACID.

RECOVERY—CARBONATE OF SODA AS AN ANTIDOTE.

[We are indebted to Dr. Allen for the particulars of the following interesting case:—]

Mary C., æt. 20, single, a servant, was admitted to the Infirmary of St. Marylebone at 10 o'clock A.M., on the 19th of November last. The report brought with her was, that she had swallowed two pennyworth (about an ounce) of hydrochloric acid shortly after 8 o'clock on the same morning, with intent to destroy herself. By her own account she had taken the acid on an empty stomach. She had been taken without loss of time to a surgeon in the neighbourhood, who had administered alkalies freely; and she had vomited several times. When admitted her countenance was pale and anxious; she complained of pain and burning heat in the throat and stomach; the latter was very tender on pressure. The surface of the body generally cold; the pulse upwards of 130 in the minute, small and thready; the tongue was of a pale whitish colour, and the fauces much inflamed. She was immediately placed in bed, heat applied to the surface of the body, and ordered to drink at pleasure barley-water with small doses of carbonate of soda dissolved in it. Soon after admission, and before she had partaken of anything, she vomited freely; the fluid ejected was of a brownish colour, and had neither acid or alkaline reaction.

Four hours after admission she vomited about half a pint of fluid, which was chiefly composed of blood. At 8 P.M. she was very restless and uneasy, and had vomited several times. The ejected fluid was tinged with blood. She was ordered to take half a grain of muriate of morphia in combination with a tea-spoonful of almond oil.

20th. — She received much relief from the morphia, and slept for several hours during the night. The abdomen is very tender, particularly over the region of the stomach, where she complains of acute pain. Some leeches were ordered to be applied, and to be followed by the application of warm bran cataplasms.

21st.—Expresses herself easier, but complains of her throat, and of the pain she suffers in attempting to swallow even fluids. The throat is less inflamed; her pulse is stronger, and has fallen to 100.

22d.—Is slightly improved; complains of cramps and twitchings in upper and lower extremities. The skin is rough, and she complains of great coldness in the lower extremities; they are, however, quite warm to the touch. She was treated with half-grain doses of morphia at night; occasional enemata of warm water. Gradually improving until the 27th, when the tenderness in the region of the stomach having considerably increased, a large blister was applied, which discharged freely and gave considerable relief.

Dec. 3d.—She has continued to improve; the pulse is now 80. She can swallow fluids without difficulty, and progresses towards health; but considerable tenderness is felt on pressure over the stomach.

[The patient shortly afterwards left the infirmary convalescent. An occasional after-consequence of this action of the mineral acids, is stricture of the œsophagus.]

OBITUARY.

On Tuesday, the 18th inst., at Ripon, highly respected, Alfred Smith, Esq., surgeon, aged 42, author of the "Harrowgate Medical Guide," &c.

At Antigua, on the 13th ult., Charles Dawson, M.D. Surgeon of Her Majesty's 54th Regiment. He fell a victim, in the discharge of his duties, to the yellow fever, which prevailed in the garrison. Dr. Dawson contributed two cases of Hydrophobia to the last volume of this journal, p. 928.

On the 25th inst., at the house of his son, D. T. Lewis, 182, Brick Lane, Spitalfields, surgeon, John Lewis, formerly of Mark Lane, surgeon.

MEDICAL GAZETTE.

FRIDAY, DECEMBER 28, 1849.

THE following announcement has been recently issued by the Royal College of Surgeons:—

"With a view to raise the standard of professional education, the Council of the Royal College of Surgeons have decided that in future, candidates for the fellowship of the institution shall undergo additional examinations in mathematics and the Greek, Latin, and French languages. In prosecution of this desirable object the Council have elected Mr. G. Gabriel Stokes, M.A., of Pembroke College, Cambridge, an examiner in mathematics; Mr. Godwin Smith, M.A., of University College, Oxford, examiner in classics; and Professor Brasseur, of King's College, London, examiner in the French language."

While we highly approve of the principle of thus creating a class of fellows who shall give proof of their possessing a knowledge of mathematics, classics, and modern languages, we cannot avoid drawing the conclusion that it would have been much more appropriate had the Council appointed examiners in medicine, chemistry, forensic medicine, and other branches of medical science, a knowledge of which is indispensable to an accomplished surgeon. One of the best reforms of the profession would consist in this College taking upon itself to send into the world men whose knowledge had been fully tested by an examination on all branches of medical science. It is not the production of tickets of attendance on lectures, but the possession of that knowledge which these lectures profess to convey, to which the College should look in admitting fellows or members. We can perceive no good reason why the Royal College of Surgeons should trust to the Establishment in Blackfriars as all-sufficient for determining whether their members have any knowledge of practical medicine, midwifery, chemistry, or forensic medicine. The University of London has acted on a different principle with great advantage to the profession: and although a knowledge of mathematics, classics, and modern languages, is absolutely necessary to an accomplished practitioner, we think it is beginning at the wrong end to institute examinations on these subjects whether for the membership or fellowship, while the scientific branches of a medical education are left to take care of themselves. It is in the power of the College to take a much higher position than that which it now holds, and to act quite independently of the Apothecaries' Society.

IF our readers desire to know in what way they should act when consulted by a *non-remunerating* Insurance-office for a medical opinion on the state of health of a person whose life is proposed to be insured, we do not think we can do better than refer them to the model correspondence elsewhere inserted.* M. D. has conducted his case in a firm and gentlemanly spirit; and although he received no fee on this occasion, he has not placed himself under the most unpleasant predicament of possibly being made heavily responsible hereafter for a *gratuitous* medical opinion. If there be any professional men who still continue to sign these Insurance-papers gratuitously, they will do well to remember that they may at some future time be made the scape-goats of Companies as little scrupulous in resisting equitable claims, as in extorting medical opinions without fee or reward. The yearly increase

* Page 1105.

in the number of *remunerating* Offices is, however, a proof that medical men do not now so easily lend themselves to these seductive applications: and if all practititioners acted in a consistent spirit, no Insurance-office would venture to send a circular without a fee.

We here bring to a close the 44th volume of this journal. As each year passes it is a satisfaction to us to find that while we retain our old friends we continue to acquire new supporters. A recapitulation of the contents of the volume is unnecessary: it may suffice to state that we have earnestly endeavoured to supply our readers with such contributions as appeared to possess any interest, novelty, or importance in a professional view; and by the aid of numerous friends we have succeeded in compressing into rather more than a thousand pages, a large amount of valuable information on practical medicine and surgery.

In our next number we shall commence the publication of a Course of Lectures on *Diseases of the Heart*, by Dr. O'Bryen Bellingham, of Dublin. The Course of Surgery by Mr. Bransby Cooper is nearly completed, and the six remaining lectures of the Course of Professor E. W. Murphy will be published in the spring. We are also promised for early publication a series of Papers on Practical Medicine, by Dr J. C. Hall, of Sheffield, whose name is favourably known to the profession by his numerous contributions to medical literature. We might easily add to this list, but we are not desirous of making an unnecessary parade of promises, as we know there are some sharp "Lookers-on" who keep a chronicle of such promises, and pounce down upon an unfortunate editor unless they are all realized to the letter. The only promise we shall venture to make is that the Journal will be conducted on the principles which have hitherto been carried out in the new series. Its pages will be open to all. Medicine will be preferred to medical politics, and slanderous attacks on the characters, opinions, and writings of professional men, whether high or low, will be "respectfully declined." We may add, that it is the intention of our printers to commence the volume with an entirely new type.

Reviews.

Lameness in the Horse; with Coloured Lithographic Plates, illustrative of the different species of Lameness. By William Percivall, M.R.C.S., Veterinary Surgeon in the First Life Guards, Member of the Apothecaries' Company, Author of "Veterinary Lectures," "The Anatomy of the Horse," &c. pp. 276. Being Part I. Vol. 4, of the Author's "Hippopathology." London: Longman and Co. 1849.

The author tells us in his preface that although lameness is one of the most practical subjects which can engage the attention of the veterinary surgeon, and one in which every owner of horses is interested, yet scarcely has any subject in veterinary science met with less profound consideration. He does not appear to lay claim to originality in his work, but to supply a treatise on lameness generally, the literature on this subject chiefly consisting of monographs on particular kinds of lameness.

Mr. Percivall, after making general observations on lameness, divides the subject into three classes—"1st, Lameness arising from disease of joints or bursæ mucosæ; 2d, Lameness arising from disease or disordered function of muscles, or from disease of tendons or ligaments unconnected with joints; 3d, Lameness arising from diseases *peculiar* to the feet." Mr. Percivall considers rheumatic inflammation, metastatic from pleuro-pneumonia, as the most fertile source of lameness of the 1st class; and he details numerous

cases from various sources to establish this point.

The author next considers ulcerative disease of joints. This may happen in two ways, either as the immediate effect of bruise or breach of surface occurring during exertion, or it may be the result of inflammation. In treating of ossific disease of joints, he observes that "there is a very remarkable propensity in the horse's economy to what is called ossific action." For his remarks on this subject we refer the reader to page 51 of his work.

Ossific deposition occasions lameness only inasmuch as it is so situated as to interfere with the freedom of action of the structures contiguous to it. There will, however, be pain and lameness while the periosteum is inflamed, and the exostosis forming.

The author next treats of spavin, devoting 122 pages to the subject, and defines it to be "an exostosis of the hock, commonly located and detectable on its inner side, whereby bones before moveable become cemented and fixed together, and which is sometimes productive of caries of the articular surfaces of one or more of the joints of the hock." (p. 59.) The causes of spavin are referred to hereditary predisposition, rapid growth in young horses attended with debility, peculiar formation, and hard work, or such work as produces a peculiar strain on the hock, such as leaping, pesading, or heavy draft. He regards "blows," commonly assigned among the causes of spavin, as an assumption made without foundation and purely hypothetical. We, however, know to our cost that there is too much reality in the statement, for we were once deprived of the services of a valuable animal in consequence of a kick received from another horse a little below the site of spavin, which terminated in decided spavin immediately on the subsidence of the acute symptoms.

It appears, from dissections made by Mr. Goodwyn, that spavin is sometimes caused by ulceration of the synovial membrane, caries of the cuneiform bones, and even ankylosis (p. 77). We think the subject of treatment is ably handled, justice being done to those excellent old writers, Sallevsell and Gibson, who our author admits were practically as good in treating this disease as the more enlightened hippopathologists of our day.

Mr. Percivall gives the name of naviculartbritis, to that which Mr. Turner, its discoverer, called navicular disease. Fifty pages are occupied with the description of this disease.

The subject of neurotomy is next considered; an operation devised for the cure of lameness, consisting in the removal of a portion of the plantar nerve, thereby destroying the sensibility and consequently the pain on which the lameness depends.

The author treats this subject judiciously, relating first of all some surprising cures of horses valueless from lameness, rising up from the operation cured, and then capable of work of a severe description for many years. He then shows that owing to its becoming the fashion it was grossly abused and lost its reputation; and lastly, lays down rules for its adoption and cautions to be used in the after-management.

The author then considers successively the lamenesses incidental to the hip-joint, elbow-joint, shoulder and knee-joint, by which it appears that the diagnosis is by no means always easy. The subjects of splint and ringbone complete the work.

We think Mr. Percivall has succeeded in producing a very useful work; he is evidently a man of experience in his profession; but as an author we deem him to be wanting in arrangement, conciseness, and care. We cannot help thinking that a record of cases of lameness, well selected and arranged, after the manner of Clough and Smellie's midwifery cases, would form a very useful guide to young veterinary practitioners, for we are quite sure that many cases puzzle them exceedingly. We well recollect the lameness of a valuable horse which caused us a great deal of discomfort, the nature of which was mistaken by several excellent authorities. At length a highly respectable and talented V. S. declared his conviction that the disease was chronic inflammation of the extensor tendon of the foot, and measures adapted to remove this affection speedily restored the animal to soundness, and its owner to comfort.

The Veterinary Record, and Transactions of the Veterinary Medical Association. Edited by Messrs. Spooner, Simonds, and Morton. July 1849.

Comparative anatomy and comparative physiology have contributed largely to the advancement of medical science. Comparative medicine naturally follows; and, while it receives back a rich return from medical science for the elucidation of disease which it has afforded, still continues to add to our store of medical facts. The contents of the Veterinary Record reflect great credit on the contributors, and indicate the progress of veterinary science, with the incalculable advantages derived from its study and practice on the inductive principles of observation.

A paper on "The Vitality of the Blood proved by physiological experiment, and its application to Veterinary Pathology demonstrated," by J. S. Gaingee, *student*, is worthy of the perusal of his seniors. Various communications, containing original observations of extreme interest, follow; viz. a case of myo-carditis in a horse, scirrhous uterus in a mare, stone formed in the colon of a horse, strumous tumours in a cow, rupture of the stomach of a horse, ruptured heart of a pony, &c. &c. Notices of transactions of learned societies, and extracts from other journals, render the Record a store-house of valuable facts for the veterinarian, and an honour to the professors of the veterinary art.

Essay on the use of Alcoholic Liquors in Health and Disease. By John Chadwick, M.D. Small 8vo. pp. 123. London: Simpkin and Co. 1849.

This essay was written for a prize, advertised in the *Times* of Dec. 25, 1848. The object is to repudiate *in toto* the use of alcoholic liquors. It sets forth the fatal effects of large doses of alcohol when taken by man, or given experimentally to animals. It describes the various modes of action of alcohol in smaller doses, the various evil consequences thence resulting, enumerating a catalogue of diseases arising out of its abuse, and concludes by the entire prohibition of alcoholic liquors.

We cannot, however, concur to the full in the author's prohibition. Having witnessed the fearfully awful consequences directly flowing from those pest-houses, the London gin-shops, and the scarcely less extensive evil of the wine and the brandy bottle in private life, we nevertheless cannot but urge the old argument that the abuse of a thing furnishes no reason against its use; and with many, we are sure, from close observation of this very point, that notwithstanding all that has been said and written, the moderate use of alcoholic liquors is indispensable to the maintenance of health.

We must not, however, omit to notice the excellent spirit in which Dr. Chadwick's essay is written, and we trust that its extensive perusal may furnish efficient warning against excess, as well as elevated principles to point out the line of demarcation between use and abuse.

Proceedings of Societies.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

November 1, 1849.

Report of the Officer of Health on the Cholera in Liverpool.

Dr. Duncan read the following particulars:—The first case of cholera occurred in an Irish family coming by steamer from Dumfries, where it then prevailed.

Dec. 10th.—A child, collapsed before arrival, died. Father took ill at night, and died.

11th.—Mother took ill at night, and died.

14th.—A woman who laid them out became ill, and died in twelve hours.

The next case was on the 16th of December. A child had diarrhœa, and died. On the 17th, her sister died, and another child took it, but recovered.

On the 17th or 18th December one case occurred in Toxteth Park, but there was not another there for three months.

In January there were four fatal cases, three of which were imported from a distance.

In February there were eight fatal cases, most of them imported.

In March there were eighteen fatal cases,

eleven of which occurred in the workhouse, and the remaining seven were chiefly in the Vauxhall Road. In many of these cases there was no purging,—merely vomiting and collapse.

In April the disease was increasing.

In May there was a rapid and steady increase, which continued until August 18th, when the highest mortality prevailed, 572 deaths happening in that week, after which it very rapidly fell until October 27th, when there were only two deaths.

On a rough computation there were two cases in the same house in from thirty to forty per cent. of the cases. On comparing the north and south ends of the town, the mortality was about three to one in the north compared with the south, making allowance for the difference of population. The mortality in Toxteth Park was about midway between the two.

Diffusion.—The cholera was more widely diffused than the Irish fever, and was less affected by sanatory measures, being oftener found in healthy situations than the fever was; though, on the whole, it was chiefly congregated in the crowded parts. In one Irish district (Crosbie Street) the proportion of fever cases was three times that of cholera; and in another (Marylebone) there were 1200 cases of fever, but less than half that proportion of cholera; and the mortality there was small compared with the number of cases.

Ages and sexes.—Below fifteen years there were 1470 cases, of which 748 were males, and 722 females; below 60 years, 3140; above, 487; unknown, 2. Of the whole number of cases 2280 were males, and 2819 females.

The preponderance of females was probably owing to their being more at home, and exposed to it—as nurses, washerwomen, &c., or at any rate to their being more in infected houses, not being called out by their work; for amongst children,—*i. e.* below fifteen years old,—there were more cases amongst boys than girls.

Effect of temperature, dissipation, &c.—Any sudden change in the mortality was generally, but not always, accompanied by a change in the temperature, increased temperature being generally accompanied by increased mortality. In Scotland, on the contrary, the greatest mortality was in the coldest weather. There was always an increased number of cases on Sunday and Monday, owing perhaps to Saturday's dissipation.

Effect of the House of Refuge.—In from thirty to forty per cent. of the cases two or more occurred in the same house; and, therefore, it is probable that had the inmates been immediately removed to a clean house of refuge, many cases might have been prevented. This was not adopted until too late a period of the epidemic to allow of the experiment being fairly tried.

Effect of house-to-house visitation.—This did not prevent the continuance of the disease, but did no doubt check its ravages, by preventing cases from becoming confirmed cholera. There is no evidence in this town in favour of the important, the all-important influence, attached to it by the Board of Health.

Premonitory Symptoms.—Few of the earlier cases had any premonitory diarrhœa.

Contagion.—Cholera is contagious in certain cases, if favoured by certain concurring circumstances; but its spread by contagion is the exception, not the rule. Many washerwomen, residing in healthy parts, to whom the linen of cholera patients had been sent, died.

Mortality.—8160 cases were reported to Dr. Duncan, but the results were only given in 5755 of them; of these 3091 recovered; 2664 died; showing a mortality of about 46 per cent.; upon which, however, no conclusions can be founded, as the 2405 cases unreported may have been all deaths or all recoveries, or deaths and recoveries in any unknown proportions.

Treatment.—Every kind of treatment had been tried. The majority of reports stated that opium in the early stages is most successful; but after the first stage calomel has been chiefly relied on; and, at a later stage, calomel in still larger doses has been still more depended on. Bloodletting has been used by only one practitioner. Saline enemata were employed by one medical man; if they were retained the improvement was rapid; if they were not retained there was no chance.

A discussion ensued as to the effect which insufficient diet had upon the spread and result of the disease, in which the opinion generally expressed was that it acted merely like any other debilitating circumstance. The principal discussion took place on the subject of the contagiousness of cholera.

Mr. Banner did not think it was contagious; for he believed there was but one recorded case amongst the poor Jews who buy old clothes, and who, it may be presumed, purchase those of cholera patients.

Mr. Davis was of the same opinion; for in an emigrant ship, containing many hundred steerage passengers, and well ventilated, no case occurred until it had been ten days at sea, when a case broke out, and after this twenty-four persons died; but all, as he contended, independent of one another.

Dr. Lancaster said that many emigrant ships had continued free until they had been ten days at sea, from which it was probable

that there might be a choleraic influence in the locality,—a conjecture which received support from the fact that vessels which sailed round the north of Ireland suffered less from cholera, as a general rule, than those which took the southern course: but this rule was not without exceptions.

Mr. CHALMERS thought it might be difficult to produce specific indisputable cases in proof of contagion; but, after considerable experience of it, he was of opinion that it was slightly, and but very slightly contagious.

Dr. WHITTLE thought it was slightly contagious, less so than fever. An old woman died in a small room, badly ventilated, in a house in which were eight or nine inmates. Two of these (girls) took it, and one died; but it spread no further. These girls slept in the same room as the old woman, and these girls only. A woman died: two children were removed from her house to another, but speedily had the disease in the new locality. Several of the nurses in the Cholera Hospital had it, after being much over the patients. Women who suckled infants affected with it almost invariably died.

Mr. BLOWER mentioned that a man died of cholera in Derry. Two children in the same house took it, but no one else. His wife removed the corpse to Newtown, about twelve miles distant, where she "waked" him. She died also, but no one else.

Mr. PADLEY thought it was slightly communicable, but not often communicated, spreading chiefly from epidemic causes. He had, however, seen several cases in which people visiting a cholera house returned to their homes two or three houses off, and there had the disease, no cases occurring in the intermediate houses.

Dr. LANCASTER gave the negative fact that among several hundred emigrants, in various ships, never more than from twenty to thirty cases occurred. It could not, therefore, be *very* contagious, though the spread to that extent might, perhaps, be partly from contagion.

Dr. NEVINS at first doubted its being contagious, but now thought it might, under certain circumstances, prove so. In one house, in a crowded court, a child had it. Her sister then had it, but no one else in the house or court. In another court a young woman had it severely; a man in the same room then took it, but no one else, though there were six or seven inmates of the same room. In another house a woman had it twice; a friend came to live in the same room with her, and took it, but no one else in the house or court. On the other hand, he had so often seen people in the same bed with a patient collapsed, or in a more or less advanced stage of the disease, without taking it, that he could not think it *very* contagious.

Mr. ARCHER said, one case had occurred in the jail, in which no communication could be traced with an infected person. It spread no further at that time; but, at a later period, another person had it, and immediately afterwards the nurse who attended him. His experience, therefore, told both ways.

Dr. GEE said that several of the messengers from the workhouse to the Cholera Hospital, and several of the carriers of corpses, had been attacked, and that a large proportion of the persons employed in bringing the cholera patients to the hospital had taken it and died.

Mr. SINCLAIR was at first sceptical, but now thought it slightly contagious. A child died of cholera: two other cases happened in the same house. All the inmates then dispersed; but four of them were attacked in their new abodes, though none of the inhabitants of those houses took it. The cholera could scarcely be said to be epidemic at that time,—at least, it was not prevalent in the town.

Mr. STEELE said, a man had been sent for a corpse, which he was obliged to carry down stairs, and there put into the coffin. He fell ill immediately afterwards, and was placed under treatment. Eight days afterwards, though no cholera prevailed then in the workhouse, he took it and died. This case, however, involved the question of incubation.

Mr. BRADSHAW said a child died. The mother took the body to Prestcott, and soon died of cholera herself, and a woman who attended her died, but no one else.

Mr. BANNER was still not satisfied that it was contagious. He did not consider the cases brought forward to be proofs, as he thought most of them arose from fear,—a powerful predisposing cause.

Dr. DUNCAN thought washing clothes the most dangerous occupation connected with cholera, many washerwomen having suffered. A young man died: his clothes were sent into the country. The house was a thatched one, and had a hole in the roof, which two men were repairing. The washing-tub was under the hole, and the vapour from the clothes reached them. Both of them took the disease and died.

At this stage the discussion was adjourned until Nov. 29th, when the discussion took place upon treatment, but nothing was elicited beyond the general impression that the disease was, in a great degree, beyond the control of medicines, though there was a generally increased confidence in the good effects from calomel given in grain or two grain doses every ten or twenty minutes. Dr. Whittle said that he had bled several

cases in which great oppression of the breathing, with catching respiration, was an early and prominent symptom, showing, in conjunction with other symptoms, extreme capillary congestion, and a state resembling asphyxia. When there had not been excessive evacuations (which were frequently absent in these cases) he found the above symptoms speedily relieved by general bloodletting, and the patients soon recovered.

Dr. Drysdale read a paper on the homœopathic treatment of 120 cases of cholera, in which he stated that camphor, in doses of about the third of a grain every five or ten minutes, had proved very successful in their hands. It was only useful at first, after which they gave arsenic, veratria, nux vomica, acetate of copper, and other remedies, according to the nature and state of the case, in infinitesimal doses; and he stated that the mortality was about twenty-six per cent.

Medical Trials and Inquests.

YORK WINTER ASSIZES.

December 16th.

(*Before Mr. Justice* Williams.)

Acquittal on a charge of administering Cantharides.

Samuel Hanson, aged 17, was indicted for a misdemeanour at common law for having, on the 8th of September, administered to Mary Warburton a quantity of Spanish flies, with intent to injure her and do her some grievous bodily harm. The indictment also contained a count for a common assault.

The prisoner, it appears, resided at home with his mother, a cowkeeper, living near the prosecutrix, and, on the 8th of September last, the prisoner gave a bottle of rum to the prosecutrix and some other girls to whom he had promised it, and in this rum he had mixed a quantity of Spanish flies, which he had purchased at Huddersfield, telling the chymist that he wanted to make a mixture for killing rats. The girls had taken home this rum and drunk it, and had been made very ill in consequence.

It was objected for the prisoner that this was not a misdemeanour at common law, nor was it an assault.

On behalf of the prosecution, it was contended that to administer any deleterious thing for the purpose of injuring another was a misdemeanour at common law, and Dixon's case, 3 M. and S., p. 10, "R. *v.* Button," 8 C. and B., and 1, *Russell on Crimes*, 674, 752, were relied on as authorities for this position, and that the fraud of imposing the Spanish flies on the girls, which they would not voluntarily have taken, was an assault.

Mr. Justice Williams, after consulting Mr. Justice Cresswell, said that the case of "Rex *v.* Button" was not sustainable. The offence was not a misdemeanour at common law, nor did it amount to an assault. The prisoner must therefore be *acquitted.*

Verdict accordingly.

*** It appears a strange omission in our criminal law that a poisonous substance like cantharides may be administered to young females with impunity. Probably the indictment was wrongly laid. The Act of 1st Vic. c. 85 calls the offence a felony, but the bungling attorney indicted the prisoner for a misdemeanour. This shows the want of a public prosecutor.

Correspondence.

LIFE-INSURANCE OFFICES AND MEDICAL REFEREES.

Sir,—The good advice you have given us respecting Life-Assurance Offices in a recent number of your journal has doubtless had the effect you desired, and it deserved; but, however good may be the precept, an old proverb tells us the example is still better. I beg therefore to send you the following account of a recent engagement between myself and one of those offenders against the honour of our profession, with the hope that it may be a yet further inducement for others to join in the crusade.

A gentleman wishing to effect a life policy upon himself in the "Minerva Assurance Office," gave my name as his medical referee, and in due course came a *request* from the Directors that I would fill up a certificate in a "private and confidential" manner. The following was my reply:—

"Sir,—I beg to acknowledge the receipt of a list of questions relating to the health of Mr. A.; and as no mention is made of any fee for so doing, I conclude it is not your custom to give one.

"The medical profession is ever willing to give its aid to charitable purposes gratuitously, and, as one of its members, I consider it one of the greatest privileges we enjoy; but I cannot look upon an Assurance Company in such a light. It is quite certain that in the case of a certificate for life-assurance, it would be unjust to look to the

applicant for payment, inasmuch as the Company alone receives the benefit; and the very circumstance of its being, as you term it, "private and confidential," acknowledges that it is so. Were the applicant to pay the fee, it is clear that he might often do it, when the certificate, if true, must be greatly to his injury. I look upon such a matter as one entirely between the Company and the physician employed as the referee.

"Under such circumstances, therefore, I decline filling up the certificate, unless upon the receipt of a fee, to which, as a professional man, I consider myself entitled; and, in doing so, I beg to add that I am not actuated by personal considerations, but the desire to uphold a public principle.

"I remain, sir,
"Your obedient servant,
"————, M.D.
"Member of the Royal College of Physicians, London.
"Dec. 13, 1849.
"To the Actuary of the Minerva Assurance Office."

The following day I received in reply—

"Sir,—I send another form. Mr. A. will see you on the subject either to-day or to-morrow.

"I am, sir,
"Your obedient servant,
"W. T. Robinson,
"Actuary."

To which I gave the following answer:—

"Sir,—I beg to return the accompanying form, which, upon principle, I decline filling up. I have seen Mr. A., and told him that, in common with the great majority of members of my profession, I have resolved to hold no communication with Assurance Offices, as a medical referee, unless my professional services are duly acknowledged.

"I remain, sir,
"Your obedient servant,
"————, M.D.
"Member of the Royal College of Physicians, London."
"W. T. Robinson, Esq."

The tale is told, and it needs no comment. The applicant was accepted upon the report of the Company's physician. I have received no farther reply. The charitable inference is, that my reasons were unanswerable.—I remain, sir,

Your obedient servant,
————, M.D.
May Fair, Dec. 21, 1849.

Medical Intelligence.

THE MORTALITY FROM CHOLERA IN RUSSIA IN 1849.

According to an official document recently issued by the Minister of the Interior, it appears that the cholera has ceased to exist in European Russia, except on some points of the Baltic, but there it has lost all its epidemic character. The last invasion of the disease in Russia has not lasted less than three whole years, during which time it has attacked 1,686,849 persons, and carried off 668,012. At St. Petersburgh, where the population is 450,000, the number of cases was 22,022, and of deaths 12,228; at Moscow, with 353,000 inhabitants, the cases were 16,248, and the deaths 8,025. In Russia the disease this time followed the same course as in 1831 and 1832; that is, from south to north, and from east to west. It made greatest ravages in low marshy grounds, and was generally preceded by dysentery and intermittent fever. It has been observed that those districts which were most severely visited in 1831 and 1832 have suffered less on the present occasion.

We may remark, that this document has been analyzed by experienced physicians, and they declare the estimate to be much below the actual loss; they state that the number swept away by the pest, throughout Russia, cannot be less than 2,000,000.

COX *versus* THE MIDLAND RAILWAY COMPANY.

A subscription has been opened for indemnifying Mr. Cox and Dr. Davies for the heavy law expenses to which they have been put by the harsh proceedings of the Midland Railway Company. Mr. Spencer, of 15, Waterloo Street, Birmingham, has undertaken to receive subscriptions.

SURGEON-DRUGGISTS AND THE FELLOWSHIP OF THE COLLEGE OF SURGEONS.

We are informed that among the members recently admitted Fellows of the Royal College of Surgeons, is one who keeps a druggist's shop. We understood that the Fellowship was established in order to create a higher grade of surgeons. Either the shop or the fellowship should be put down.

HOMŒOPATHY AND THE CHOLERA.

In deference to the assertions and large claims of the advocates of homœopathy, and in consideration of the comparatively small success obtained over the mortality of cholera by any method of treatment, the administration of the hospitals Salpétrière and

St. Louis submitted a few cases to the homœopathic mode of practice, but the result did not warrant its continuance. The physicians report that *all* the cases proved fatal!—*L'Union Médicale.*

VERDICTS OF CORONERS' JURIES—RECTIFICATION OF MISTAKES.

At the Middlesex Sessions, recently held before Mr. Sergeant Adams, the following case was brought forward:—

Abraham Weston was indicted for a common assault upon Mary Weston, his wife, since deceased.

The learned Judge said, he had been looking through the depositions in this matter, and was clearly satisfied that it was a case of manslaughter, for the surgeon who had been called in to attend the poor woman had given it as his opinion that she had died of congestion of the brain, and that such congestion had been produced by blows which she had received upon the head. The coroner's jury, upon that evidence, found this verdict, "Died of congestion of the brain, accelcrated by the ill treatment of her husband;" and a most extraordinary verdict it was; but not so very surprising either when it was regarded simply as the verdict of a coroner's jury. That, however, which appeared to be the most astonishing feature in the affair was, that the police magistratc had committed the husband to take his trial for a common assault only.

The surgeon here, addressing the Court, said, that it was his conviction that the death of the woman had ensued from a cause which had been the result of blows upon the head.

The learned Judge thereupon directed that a bill, charging the husband with manslaughter, should be sent before the grand jury, with a view to the case being sent to the Central Criminal Court for trial.

ALLEGED MURDER OF DR. PARKMAN BY ONE OF THE PROFESSORS IN HARVARD COLLEGE, NEW ENGLAND.

The *Boston Atlas* reports an extraordinary case of assassination which occurred in that city a few days previous to the departure of the last mail for England, and which involves the reputation of a man of some eminence. The inhabitants were one morning intensely excited by an announcement that portions of a body, supposed to be the remains of a Dr. George Parkman, had been discovered underneath the chemical laboratory of Professor John W. Webster, in the Medical College at the foot of North Grove-street, Boston, and that Mr. Webster had been arrested and incarcerated in the Leverett-street gaol, on suspicion. "The sensation caused by the announcement," says the *Boston Atlas*, "we never before saw equalled in our community, and it formed the topic of conversation in every part of the city, among all classes. All kinds of rumours were set afloat, and stories without the least foundation told." From the details of the case, which are too diffuse to be reprinted at length, it appears that Dr. Parkman, in the early part of November last, applied to Professor Webster, at the College, for payment of some money which he alleged to be due to him, and after an interview with his debtor, which provoked much angry feeling on both sides, he left the place, "apparently much excited." After some further negotiations on the subject of the debt, it seems that the money was finally paid at the latter end of November. The amount (483 doll. 64 c.) was to take up two notes and to cancel a mortgage. Dr. Parkman surrendered the notes, but had not the mortgage with him at the time of payment. He eventually left the college at half-past one o'clock in the afternoon of the 23d of November, after which period he most unaccountably disappeared. Suspicion was soon awakened, the authorities were alarmed, and a reward of 1,000 dollars was immediately offered for the discovery of Dr. Parkman's body, it being the general opinion that he had been foully assassinated. In the meantime the apartments of Professor Webster (who appears to have been suspected from the outset) were searched by the police in his presence, but nothing was found to inculpate him in the first instance. The suspicions, however, scemed still to increase that Dr. Parkman had never quitted the college building, and as there was one part which had not been searched, which was the vault directly underneath Professor Wcbster's laboratory, the only access to which was through a water-closet in the laboratory, and as Dr. Henry J. Bigelow, Professor of Surgery at Harvard University, was desirous that all suspicions should be clearcd up, as far as was in the power of those having direction in the building, he directed Mr. Ephraim Littlefield, the person who has charge of, and whose family reside in a part of the building, to effect an entrance into the vault without forcing the lock of the closet door. To explain how the entrance was effected to this vault it should be stated that the college is built upon walls which rest upon piles, and that the tide ebbs and flows through apertures underneath the basement floor, between the compartments formed by the walls. One of these compartments forms what is termed the vault underneath Professor Webster's laboratory. There is a trapdoor to the compartment next to that used by Professor Webster, situated some 40 feet from the watercloset. Littlefield descended through this trapdoor, with a

crowbar, and knocked an aperture in the wall near the water-closet, and discovered portions of a human body, which had been washed by the sea. These portions were the pelvis, the right thigh, and the right leg. Littlefield immediately proceeded to Dr. Bigelow's office, and acquainted him with the fact, in the most excited manner, saying "I have found it!" and repeating these words so often that Dr. Bigelow took hold of him and told him to be quiet, that he acted like a crazy man. The authorities hereupon resolved to arrest Professor Webster, and the officers of justice accordingly proceeded to his private residence, and having induced him to enter their carriage for the purpose, as they pretended, of being present at an examination of the college apartments, at once conducted him to the city gaol, where he was detained on the charge of having murdered Dr. Parkman. The pieces of the body found in the vault were afterwards exposed to view in Professor Webster's presence. A jaw bone, some artificial teeth, particles of gold and silver, and some buttons found by the officers in a furnace used in the laboratory, were shown at the same time. A number of other persons were present. Professor Webster said nothing, and nothing was said to him. He was then conducted to the room adjoining the lecture-room, used solely by him for preparing mixtures to be used in making experiments at his lectures. This room is connected with the laboratory by a staircase. Upon his entrance into this room he said, "This is where I make examinations." This is all the remark he made while in the college. The examination having been concluded, he was conducted back to his cell in the gaol. The police officers subsequently discovered a tea-chest stowed away in a nook in the laboratory, under some shelves, which was found to contain a portion of a human body, comprising the back and ribs, and in between the ribs was a left thigh. These were covered over first with tan, and over that was a layer of mineral substances. In the chest was found a large hunting knife. The officers next discovered tracks of what they considered blood from the counter in the lecture-room, upon the brick floor of the room adjoining, upon several of the stairs leading from this room to the laboratory, and upon the floor of the laboratory to the watercloset, down which it is believed the portions of the human body found were thrown. Upon the remains thus discovered an inquest was held in due course, and adjourned for the hearing of further evidence. The officers, in continuing their search, found a pair of black ribbed pantaloons, with the name of Professor Webster written upon the lining, a pair of slippers used by him, and a saw belonging to him, upon which are marks of what is believed to be blood. The bottom of the slippers bore the appearance of having been used in treading down tan. Dr. Jackson tested the spots found upon the stairs, and pronounced the stains to have been caused by blood. Dr. Webster remained in durance at the departure of the mail. He was at first much excited, and "raved somewhat," but afterwards "cooled down," and, according to the last accounts, was calm and collected. He awaits his trial for wilful murder with a very slender chance of acquittal.

ANIMALCULA IN CHOLERA PATIENTS.

An anticipatory sheet from the forthcoming number of the Western Lancet, of Cincinnati, gives the results of Dr. Mussey's microscopical discoveries in the fluids of cholera patients, together with his son's researches and detection of animalcules in the pustules of small-pox, and in the atmosphere during the prevalence of the latter disease. Dr. Mussey has found in a shred of the vastus externus, ten hours after death from cholera, multitudes of globular animalcules. Minute details are given of the appearance and physical character of these little monsters, playing in the secretions of the human body, like the unnumbered millions of aquatic animals in ponds of water. One variety "*move deliberately, with lateral flexure of the body, like a serpent on the ground.*" "If," says Dr. Mussey, "the animalcular theory of cholera should be confirmed, by a better acquaintance with the habitudes of these myriads of microscopical existences, we may hope then to explain the mysterious movements of this black death."

With such extraordinary facts as the microscope reveals, in regard to the condition of organic structures, one of the next astounding revelations may be, that all animal bodies are aggregations of inferior animals—which, however minute in the scale of creation, are each influenced by appetencies, sensations, desires, and determinations, wholly independent of each other, however linked together to produce a perfect organization. Much has been added to our knowledge by the developments of science; yet they are but the beginning of discoveries.—*Boston Medical Journal.*

ANALYSIS OF CALCULI FOUND IN THE BLADDER OF AN OX. BY M. GIRARDIN.

Seven calculi were found in the bladder of an ox. They were of unequal sizes, the largest being about equal to a filbert: they varied also in form, their surfaces having been exposed to friction. Externally they were of a black or reddish grey colour. Internally they presented a laminated structure: an outer, thin and whitish, and an inner reddish coloured layer. They were

very friable. Their densities were—1·0013, 1·0021, 1·0048, 1·0063, 1·0071, 1·0074, 1·0074, 1·0086. Their analysis gave :—

Water	14·2
Carbonate of lime . . .	51·0
Carbonate of magnesia . .	9·8
Phosphate of lime . . .	12·0
Organic matters	13·0
Chloride of sodium . . . } Rose-coloured matter . . }	traces
	100·0

—*L'Union Médicale.* χ

TRANSMISSION OF CHOLERINE FROM A MOTHER TO HER INFANT. BY DR. CHAILLY.

A YOUNG woman, arrived at the termination of gestation, was seized with severe cholerine, which was successfully treated and ended in safe delivery. The infant, a strong and healthy child, was, contrary to advice, suckled by the mother. Two days after birth, it was seized with cholera and died in twelve hours. The child was, in all probability, born with a predisposition to cholera transmitted from the mother, and the otherwise healthy influence of the colostrum was here sufficient to excite the disease.—*Ib.*

*** This case may have resulted from direct contagion (extra-uterine), and not from the intra-uterine transmission of disease. χ

PROGRESS OF MEDICAL SCIENCE IN TURKEY.

PUBLIC instruction has for some time past engaged the Sultan's attention. The best scientific and literary works are translated, and their circulation promoted. General information is rapidly increasing. In Constantinople, the chief physician of the Empire, Haïr-Ullah-Effendi, has established a journal, the *Gazette Medicale de Constantinople*, of which two editions are published, one in the French, the other in the Turkish, language. The first number contains an article on the advantages of this publication, signed by Haïr-Ullah-Effendi, as *Doctor of Medicine and Director of Studies in the Imperial School of Galata-Seraï.*—*Ib.*

*** A course of lectures on Hygiene has also been commenced in Constantinople, by M. Mavroïenis. χ

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 20th December, 1849 :—William Arthur, St. Ives, Huntingdon—George Thomas William Mugliston, West Ham—John Horner, Lincoln—William James Moone, Hales Owen, Shropshire—William Darroch Pennington Swain, Westmorland—John Humphry, Deal, Kent—Theodore Edward Ladd, Manchester—Henry Miles Cockerton, Rochford, Essex—Jackson Goodenough Kent, Hampton.

Selections from Journals.

CASE OF DISEASED HEART. BY DR. MARCUS.

A. B., twenty-eight years of age, slightly built, had served for thirteen years as a trumpeter in different regiments, and led a dissipated life. He was discharged as unfit for duty on account of dyspnœa and palpitation of the heart, with occasional hæmoptysis. In November 1827, Dr. Marcus, on being requested to see him, found him suffering from general dropsy, unable to rest except in the sitting posture. The heart's action was not synchronous with the pulse at the wrist ; its impulse was visible at a distance, and each beat was accompanied with a fearful start of the whole body, as of an electric shock. Notwithstanding the sad spectacle he presented, he was still cheerful, and could even joke. He died on the morning of Christmas-day.

Post-mortem examination thirty-six hours.—Besides a great quantity of fluid in both pleuræ, the lungs were hepatized in several parts, and adherent to the pleuræ. The liver was enlarged and hard. The gall-bladder small and full of bile.

The heart presented the following changes :—It was much enlarged, firm in texture, and universally adherent to the pericardium. The coronary veins were greatly distended, and the coronary arteries in some places ossified. The cavities were enlarged, the auricles were as large as the ventricles. The foramen ovale was quite open, very large, and perfectly round, permitting the free passage of the blood from one auricle to the other. The ventricular septum presented two apertures of the size of peas. The tricuspid valve was scarcely perceptible, and might be regarded as wanting. The valves of the pulmonary artery were too small to fulfil their office. The mitral valve was in its normal state. The aortic valves were partly ossified.—*Casper's Wochenschrift*, 1849. χ

CASE OF POISONING BY BI-CHLORIDE OF MERCURY. BY M. M. FRISSELLE, M.D.

MRS. McL——, aged 26, took on Monday evening, April 23d, one drachm of the salt (corrosive sublimate) in solution, supposing it to be an infusion of capsicum with rum.

The poison produced intense burning of the throat and fauces, but this did not excite alarm, or call her attention to the medicine which she had taken, as she expected some such effect from the use of the capsicum. Copious vomiting, of a dark frothy substance, and purging, came on in about an hour, and continued at intervals during the night and part of the succeeding day; still she pursued her usual duties about house, though with considerable uneasiness of the stomach and bowels; nor did it occur to her that she had taken poison till early on Wednesday morning, when I was called with my partner, Dr. H. Dewing We found the mouth and tongue brown and parched, with burning in the throat and stomach; countenance flushed; pulse 70, full and regular. We immediately gave the white of eggs three ounces, to neutralize any of the poison which might remain; and directed one ounce of the same to be given every hour for a few hours; also large quantities of gum Arabic mucilage, with ten drops of laudanum every hour, to allay in a measure the extensive irritation. By pursuing this plan of treatment, on the third and fourth day the severity of the symptoms seemed considerably to abate. The pulse fell to 62, countenance less anxious, with little pain, and no tumefaction of the bowels. This gave some reason to hope that the patient would ultimately recover; but our hopes were dissipated at the end of the next twenty-four hours, when vomiting and purging of a dark grumous matter came on, with stupor and delirium, which increased till death; this took place on the sixth day from the taking of the poison.

One point worthy of remark is, that the pulse did not rise above the natural standard, and maintained a good degree of fulness and regularity until a few hours previous to her dissolution.—*Boston Medical and Surgical Journal*, December.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Surgical Anatomy of the Arteries. By V. Flood, M.D. New Edition, by J. H. Power, M.D.

Journal de Chimie Médicale. No. 12, Decembre.

Comptes Rendus. Nos. 20, 21, 22, 23, 24.—Tables des Comptes Rendus, 1er Semestre, 1849.

Boston Medical and Surgical Journal. December.

Le Choléra considéré sous son point de Vue Psychologique. Par le Dr. Forbes Winslow. Traduit par E. Colmache. Paris, 1849.

Practical Suggestions for the Establishment of National Cemeteries. By G. A. Walker, Surgeon.

Casper's Wochenschrift. Nos. 45 and 46. Berlin, 10 and 17 November.

A Few Suggestions on Consumption. By Robert Hull, M.D.

Observations on Asiatic Cholera. By T. Simpson, M.D. &c.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer ..... 29·952
,, ,, ,, Thermometer[a] ..... 42·3
Self-registering do.[b] .... Max. 43·4 Min. 39·6

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·45.—Sum of the daily observations taken at 9 o'clock.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 22.

Births.		Deaths.		*Av. of 5 Aut.*	
Males....	682	Males....	530	Males....	583
Females..	671	Females..	513	Females..	579
	1353		1043		1162

Causes of Death.		*Av. of 5 Aut.*
All Causes	1043	1162
Specified Causes	1040	1158
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	197	307
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	36	49
3. Brain, Spinal Marrow, Nerves, and Senses	131	125
4. Heart and Bloodvessels.....	39	40
5. Lungs and organs of Respiration	227	214
6. Stomach, Liver, &c.	50	65
7. Diseases of the Kidneys, &c.	10	11
8. Childbirth, Diseases of Uterus, &c.	4	10
9. Rheumatism, Diseases of Bones, Joints, &c.	11	8
10. Skin.....	2	1
11. Old Age	45	57
12. Sudden Deaths.....	31	12
13. Violence, Privation, Cold, &c....	41	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox.....	10	Convulsions.....	37
Measles.....	46	Bronchitis	110
Scarlatina	29	Pneumonia	81
Hooping-cough	22	Phthisis	120
Diarrhœa.....	13	Lungs	11
Cholera.....	1	Teething	12
Typhus.....	34	Stomach	6
Dropsy	12	Liver.....	8
Hydrocephalus	21		
Apoplexy	41	Childbirth	2
Paralysis	21	Uterus	1

NOTICES TO CORRESPONDENTS.

We are obliged to the Rev. J. Barlow for a ticket of admission to the evening meetings at the Royal Institution.

The space occupied by the Index has compelled us to postpone many communications, which are in type. These will be inserted in due order.

Dr. Parkes's letter on the early cases of Cholera will appear next week.

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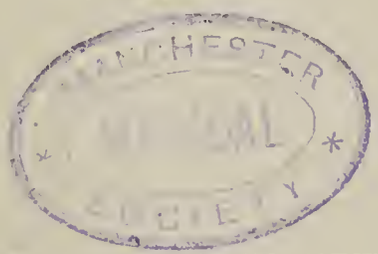

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WILSON and OGILVY, 57, Skinner Street, Snowhill, London.